

PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ
FACULTAD DE CIENCIAS E INGENIERÍA



PONTIFICIA
UNIVERSIDAD
CATÓLICA
DEL PERÚ

**Optimización de rutas en una empresa de recojo de residuos sólidos
en el distrito de los Olivos - Anexos**

Tesis para optar el Título de Ingeniero Industrial, que presenta el bachiller:

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ASESOR: Miguel Hermógenes Mejía Puente

Lima, mayo de 2013

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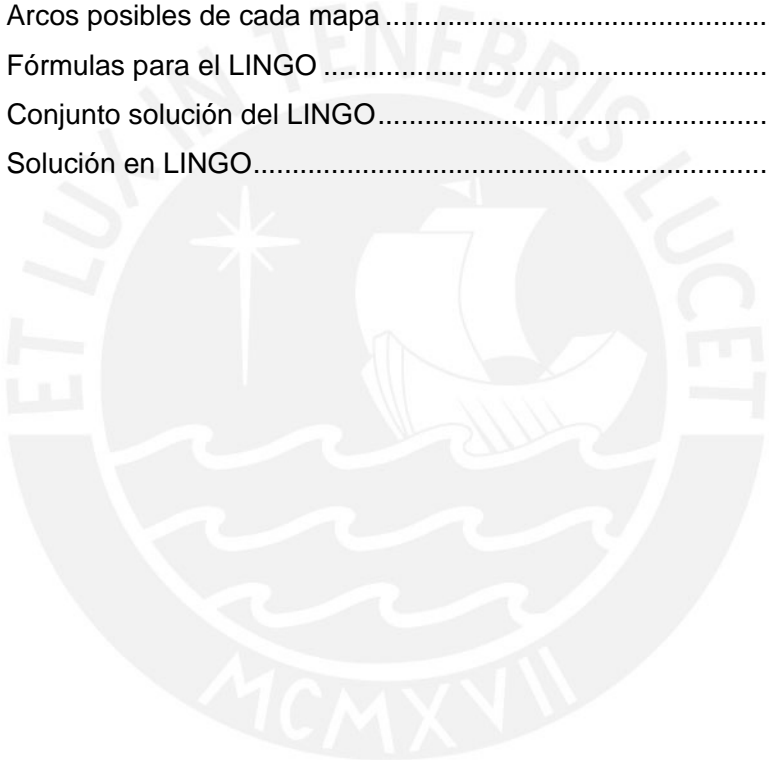
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Anexo 1. Lista de unidades propias de la empresa

No	RUEDAS	EJES	CARROCERIA	MODELO	MARCA	AÑO	FECHA ADQ.	Capacidad (Mts ³)
1	10	3	COMPACTADOR	17.220	VOLKSWAGEN	2006	02-07-07	20
2	10	3	COMPACTADOR	17.220	VOLKSWAGEN	2006	02-07-07	20
3	10	3	COMPACTADOR	17.220	VOLKSWAGEN	2006	02-07-07	20
4	10	3	COMPACTADOR	17.220	VOLKSWAGEN	2006	02-07-07	20
5	10	3	COMPACTADOR	17.220	VOLKSWAGEN	2006	02-07-07	20
6	10	3	COMPACTADOR	17.220	VOLKSWAGEN	2006	02-07-07	20
7	10	3	COMPACTADOR	17.220	VOLKSWAGEN	2006	02-07-07	20
8	10	3	COMPACTADOR	17.220	VOLKSWAGEN	2006	02-07-07	20
9	10	3	COMPACTADOR	17.220	VOLKSWAGEN	2006	02-07-07	20
10	10	3	COMPACTADOR	4300 SBA 4X2	INTERNATIONAL	2008	01-06-08	20
11	10	3	COMPACTADOR	4300 SBA 4X2	INTERNATIONAL	2008	01-06-08	20
12	10	3	COMPACTADOR	4300 SBA 4X2	INTERNATIONAL	2008	01-06-08	20
13	10	3	COMPACTADOR	4300 SBA 4X2	INTERNATIONAL	2008	01-06-08	20
14	10	3	COMPACTADOR	4300 SBA 4X2	INTERNATIONAL	2008	01-06-08	20
15	10	3	COMPACTADOR	4300 SBA 4X2	INTERNATIONAL	2008	01-06-08	20
16	10	3	COMPACTADOR	4300 SBA 4X2	INTERNATIONAL	2008	01-06-08	20
17	10	3	COMPACTADOR	4300 SBA 4X2	INTERNATIONAL	2008	01-06-08	20
18	10	3	COMPACTADOR	4300 SBA 4X2	INTERNATIONAL	2008	01-06-08	20
19	10	3	COMPACTADOR	4300 SBA 4X2	INTERNATIONAL	2008	01-06-08	20
20	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2010	2011	20
21	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2010	2011	20
22	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2010	2011	20
23	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2010	2011	20
24	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2010	2011	20
25	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2010	2011	20

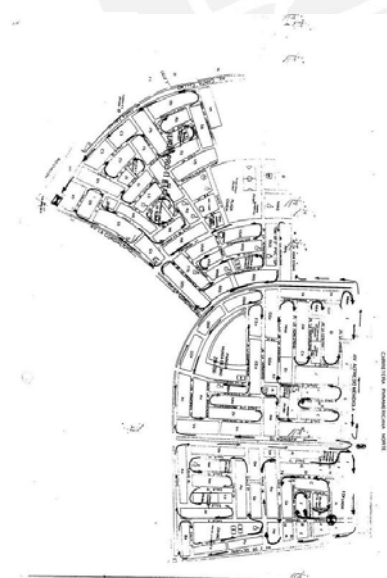
26	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2010	2011	20
27	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20
28	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20
29	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20
30	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20
31	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20
32	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20
33	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20
34	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20
35	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20
36	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20
37	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20
38	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20
39	10	2	COMPACTADOR	17.220 (4X2) 2011	VOLKSWAGEN	2011	2011	20

Anexo 2. Rutas actuales

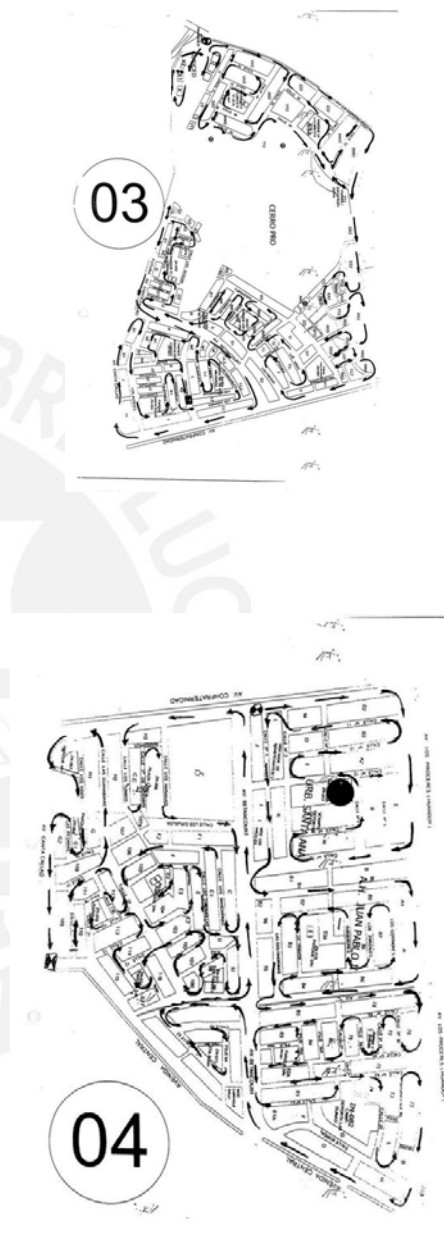
Mapa 1

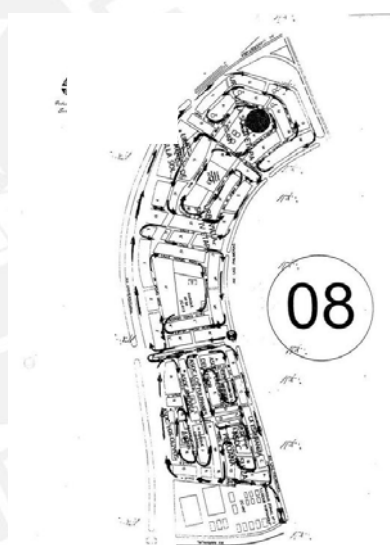
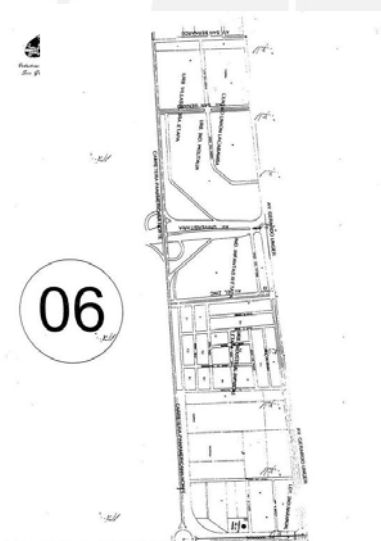


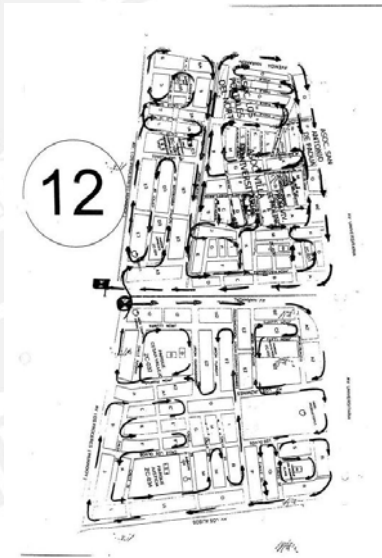
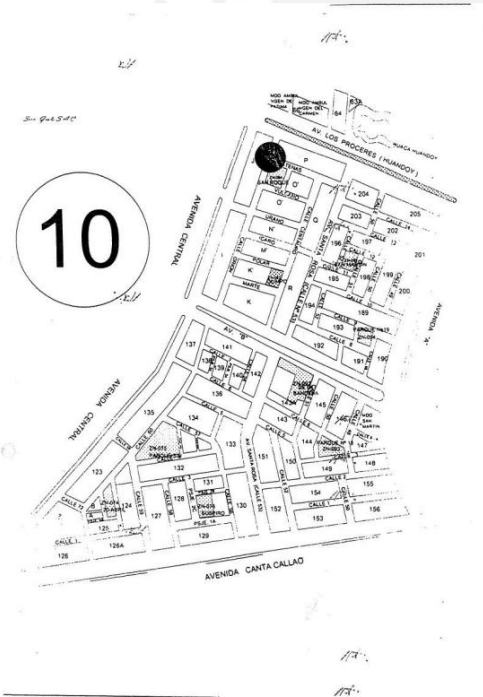
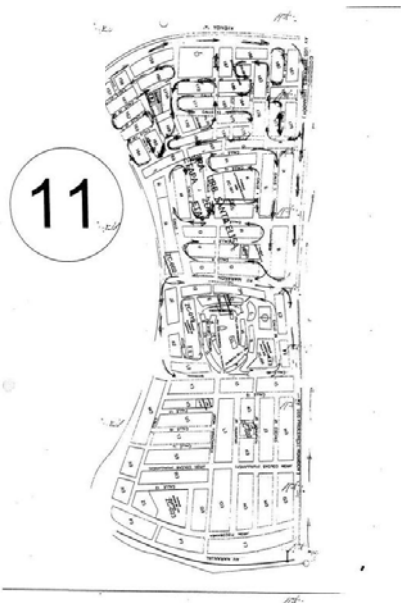
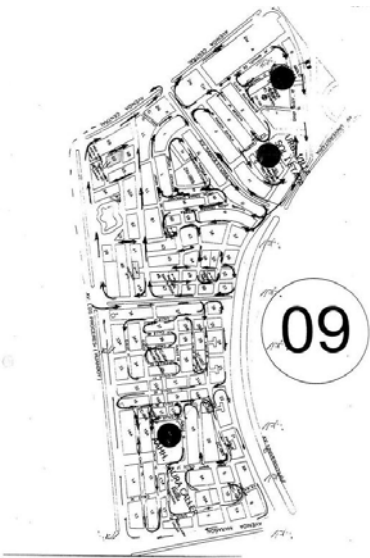
Mapa 2

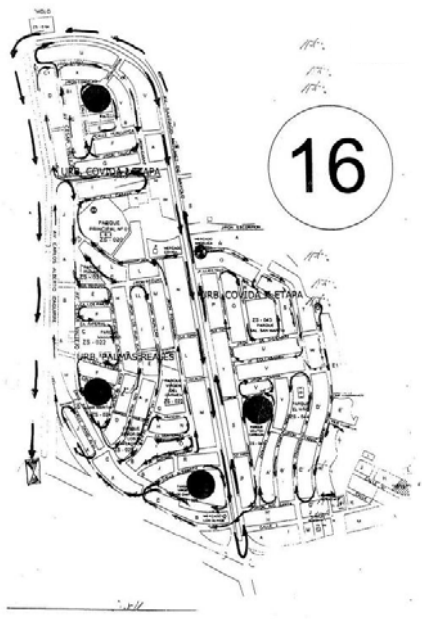
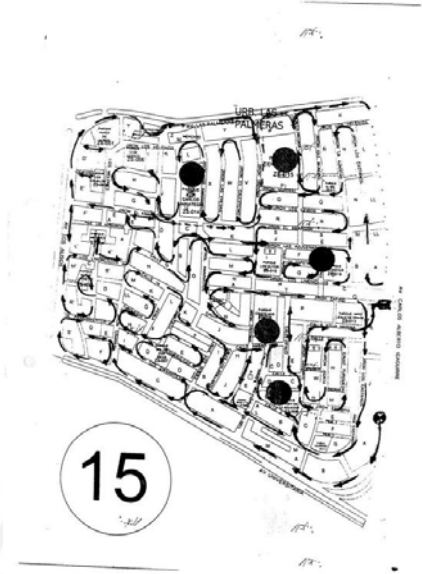
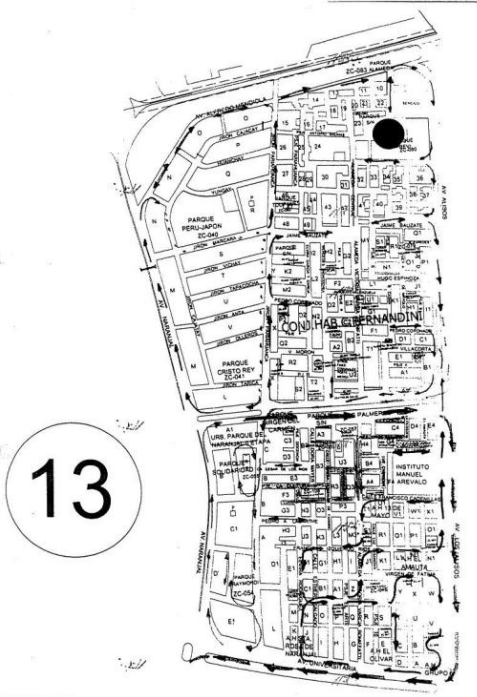


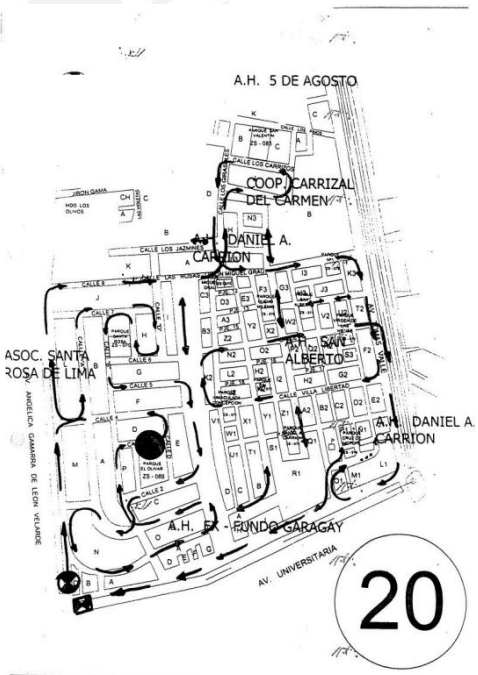
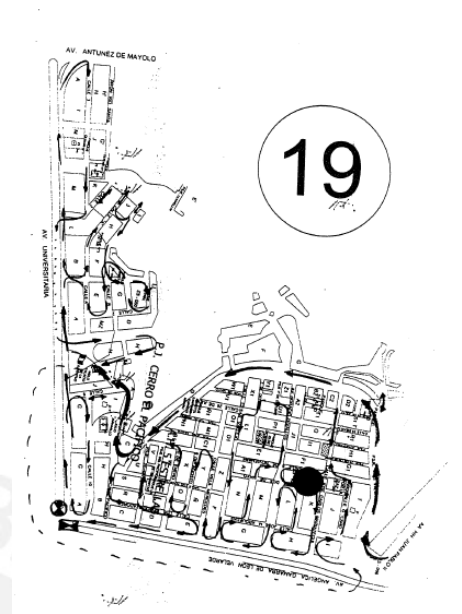
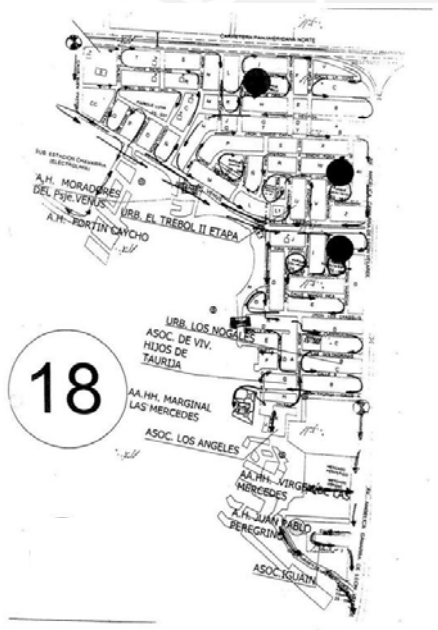
Mapa 3













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Anexo 3. Ejemplo de Reporte del día 08-08-12

CARACTERÍSTICAS DEL VEHÍCULO					CARACTERÍSTICAS DEL CHOFER
COD DE UNIDAD	PLACA	CLASE	CARROCERIA	MARCA	CODIGO DE CHOFER
UNI045	B9K-723	CAMION	FURGON	HYUNDAI	NO BASE
UNI018	A0O-925	CAMION	COMPACTADOR	INTERNATIONAL	CH057
UNI030	C3L-876	CAMION	COMPACTADOR	VOLKSWAGEN	CH007
UNI027	C3L-812	CAMION	COMPACTADOR	VOLKSWAGEN	CH035
UNI022	B0D-866	CAMION	COMPACTADOR	VOLKSWAGEN	CH020
UNI047	B9R-725	CAMION	FURGON	HYUNDAI	CH011
UNI008	A0O-913	CAMION	COMPACTADOR	VOLKSWAGEN	CH034
UNI021	B0D-831	CAMION	COMPACTADOR	VOLKSWAGEN	CH033
UNI032	C3L-879	CAMION	COMPACTADOR	VOLKSWAGEN	CH010
UNI028	C3L-858	CAMION	COMPACTADOR	VOLKSWAGEN	CH016
UNI031	C3L-878	CAMION	COMPACTADOR	VOLKSWAGEN	CH017
UNI036	C3M-812	CAMION	COMPACTADOR	VOLKSWAGEN	CH051
UNI044	A6N-841	N2-CAMION	MADRINA	DONGFENG	CH054
UNI034	C3L-881	CAMION	COMPACTADOR	VOLKSWAGEN	CH006
UNI025	B0E-807	CAMION	COMPACTADOR	VOLKSWAGEN	CH024
UNI035	C3M-811	CAMION	COMPACTADOR	VOLKSWAGEN	CH056
UNI051	WGP489	CAMION	0	DONGFENG	CH008

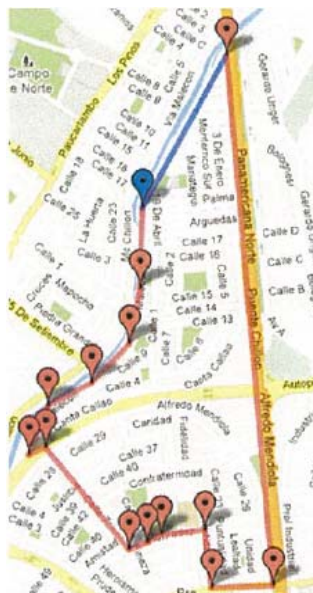
CARACTERÍSTICAS DEL CHOFER		AYUDANTES					
APELLIDOS Y NOMBRES	CELULAR RPC	CODIGO OPERARIO 1	APELLIDOS Y NOMBRES	COD OPER 2	APELLY NOMBR	COD OPER3	APELLY NOMBR
A. ANGELEZ	7215		#N/A		#N/A		#N/A
VELIZ DE LA CRUZ PEDRO ALBERTO	237		#N/A		#N/A		#N/A
CABELLO ANDRADE JUSTINO	5139		#N/A		#N/A		#N/A
OSCCO VARGAS MANUEL	4442		#N/A		#N/A		#N/A
GUTIERREZ ÑAHUIS HERACLIDES	4451		#N/A		#N/A		#N/A
CHAVARRI CAURINO FREDY ALEX	4450		#N/A		#N/A		#N/A
OSCCO VARGAS CESAR	7226		#N/A		#N/A		#N/A
OZCCO VARGAS ALFREDO	4448		#N/A		#N/A		#N/A
CHAVARRI CAURINO HORACIO	7255		#N/A		#N/A		#N/A
CUBAS DIAZ CARLOS ALBERTO	3644		#N/A		#N/A		#N/A
DAVILA CABEZAS JUAN EDGAR	8669		#N/A		#N/A		#N/A
TICONA MAMANI HILARIO	7077		#N/A		#N/A		#N/A
VARGAS CCACCA VICTOR PAULINO	4447		#N/A		#N/A		#N/A
BENITES CASTRO HENRY LUIS	4452		#N/A		#N/A		#N/A
JUAREZ BALDEON JOSE ANTONIO	3588		#N/A		#N/A		#N/A
VELIZ DE LA CRUZ DAVID VICTOR	7258		#N/A		#N/A		#N/A
CAMACHO FERNANDEZ ROLANDO	7642		#N/A		#N/A		#N/A

DISTRITO		DISTRIBUCION			RELLENO		REPASO
COD DISTR	DISTRITO	SALIDA	INICIO	TERMINO	INGRESO	SALIDA	DISTRITO
D2	INDEPENDENCIA						
D2	INDEPENDENCIA	06:03:24 a.m.	06:31:34 a.m.				
D2	INDEPENDENCIA	05:55:13 a.m.	06:29:54 a.m.				
D2	INDEPENDENCIA	06:00:20 a.m.	06:18:28 a.m.				
D2	INDEPENDENCIA	06:27:12 a.m.	06:49:52 a.m.				
D2	INDEPENDENCIA						
D2	INDEPENDENCIA	06:14:27 a.m.	06:39:26 a.m.				
D2	INDEPENDENCIA	05:59:28 a.m.	06:15:46 a.m.				
D2	INDEPENDENCIA	06:09:36 a.m.	06:24:18 a.m.				
D2	INDEPENDENCIA	06:44:34 a.m.	06:57:40 a.m.				
D2	INDEPENDENCIA	06:44:14 a.m.					
D2	INDEPENDENCIA	04:06:55 a.m.	06:39:04 a.m.				
D2	INDEPENDENCIA	06:26:46 a.m.	06:43:04 a.m.	08:42:36 a.m.	09:09:48 a.m.	09:30:46 a.m.	
D3	LOS OLIVOS	06:04:15 a.m.	06:45:00 a.m.	10:19:47 a.m.	10:45:50 a.m.		
D5	PUEBLO LIBRE	06:03:20 a.m.	06:39:02 a.m.				
D4	LINCE	04:02:15 a.m.	04:02:15 a.m.				
d3	LOS OLIVOS	05:57:20 a.m.	07:10:53 a.m.	08:49:26 a.m.	09:10:12 a.m.	09:30:48 a.m.	REPASO

[illegible]

Anexo 4. Sectorización de rutas

Mapa 1



Mapa 3



Mapa 2



Mapa 4



Mapa 5



Mapa 6



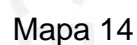
Mapa 7



Mapa 8



Mapa 9



Mapa 15



Mapa 16



Mapa 18

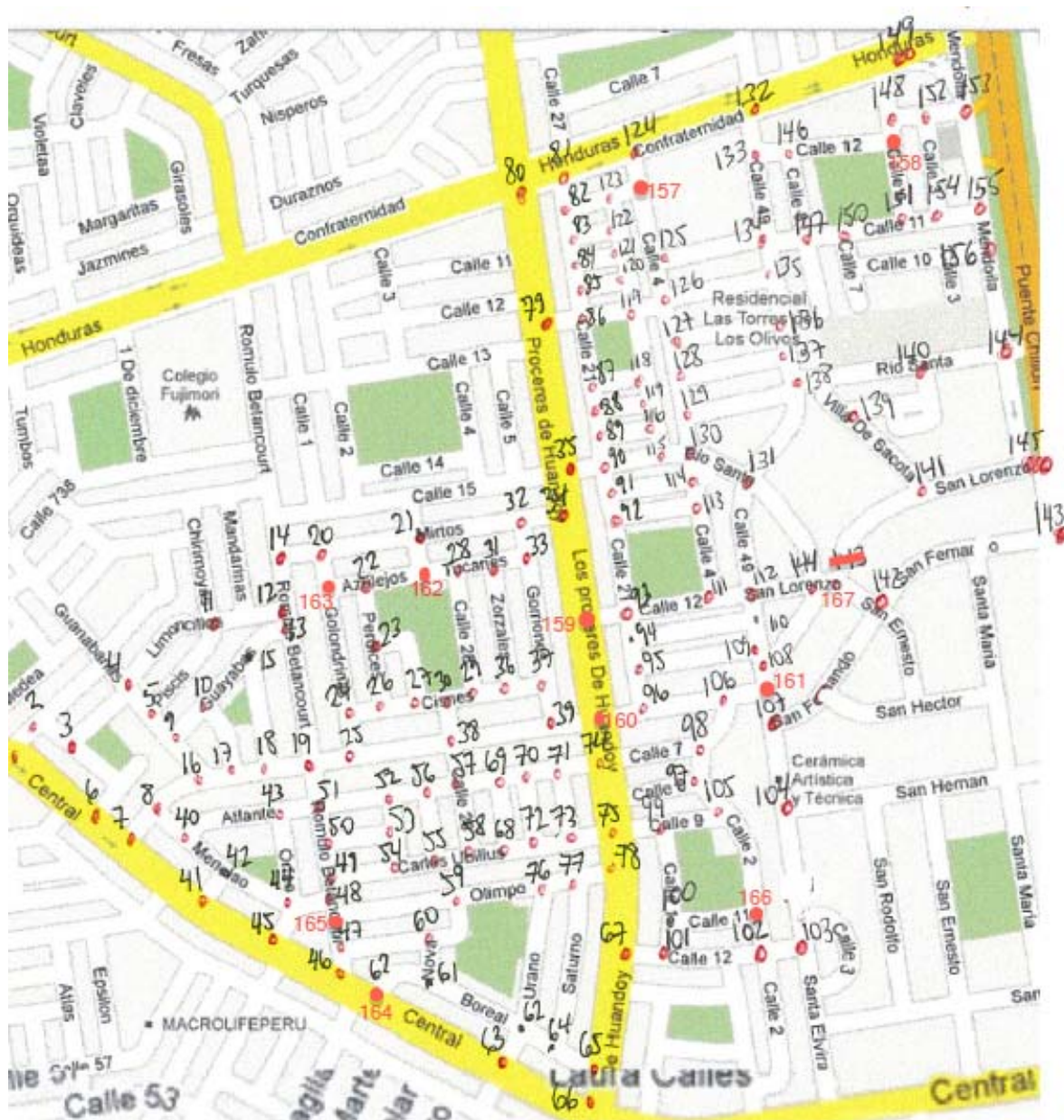


Mapa 17

Mapa 3



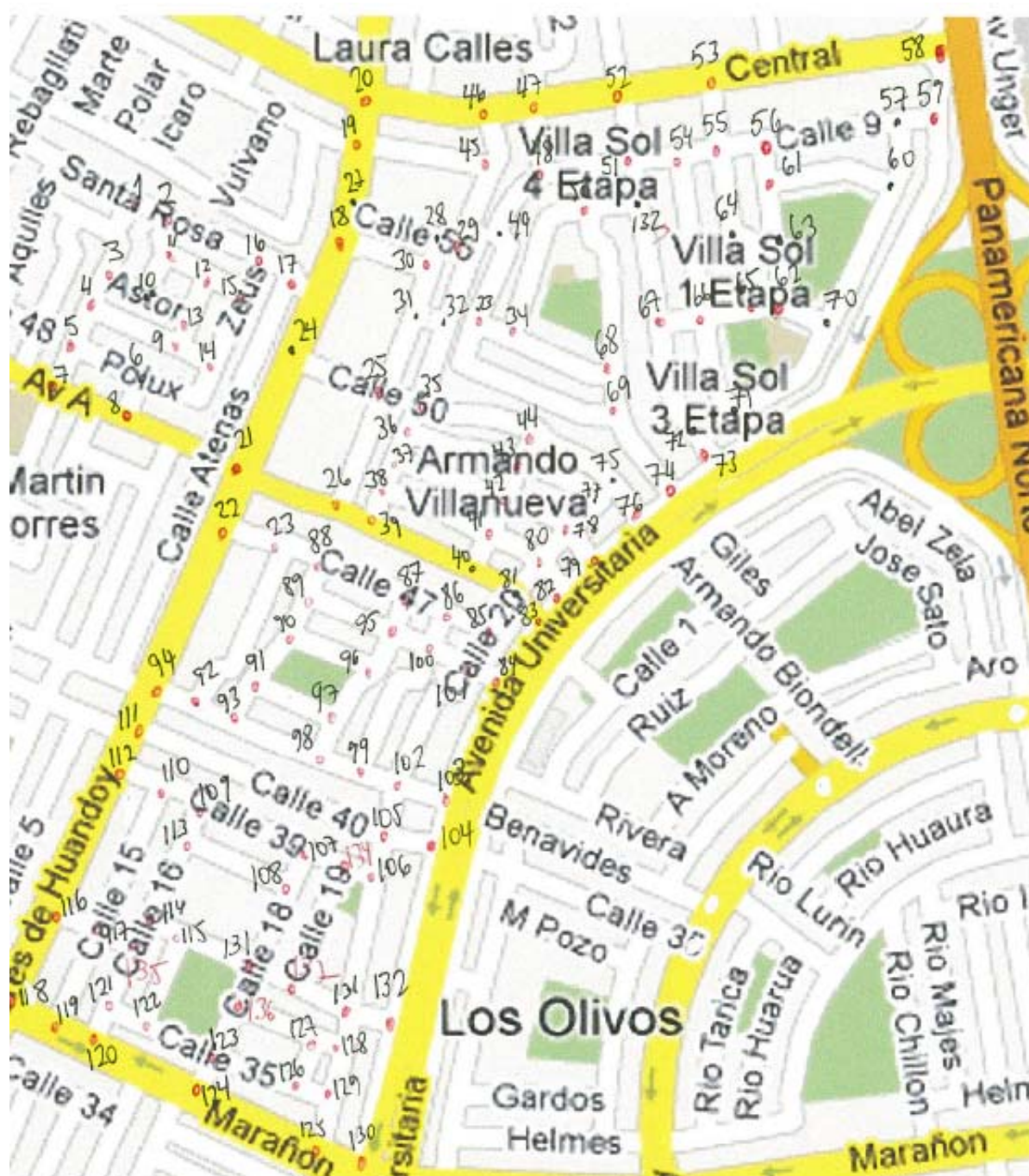
Mapa 4



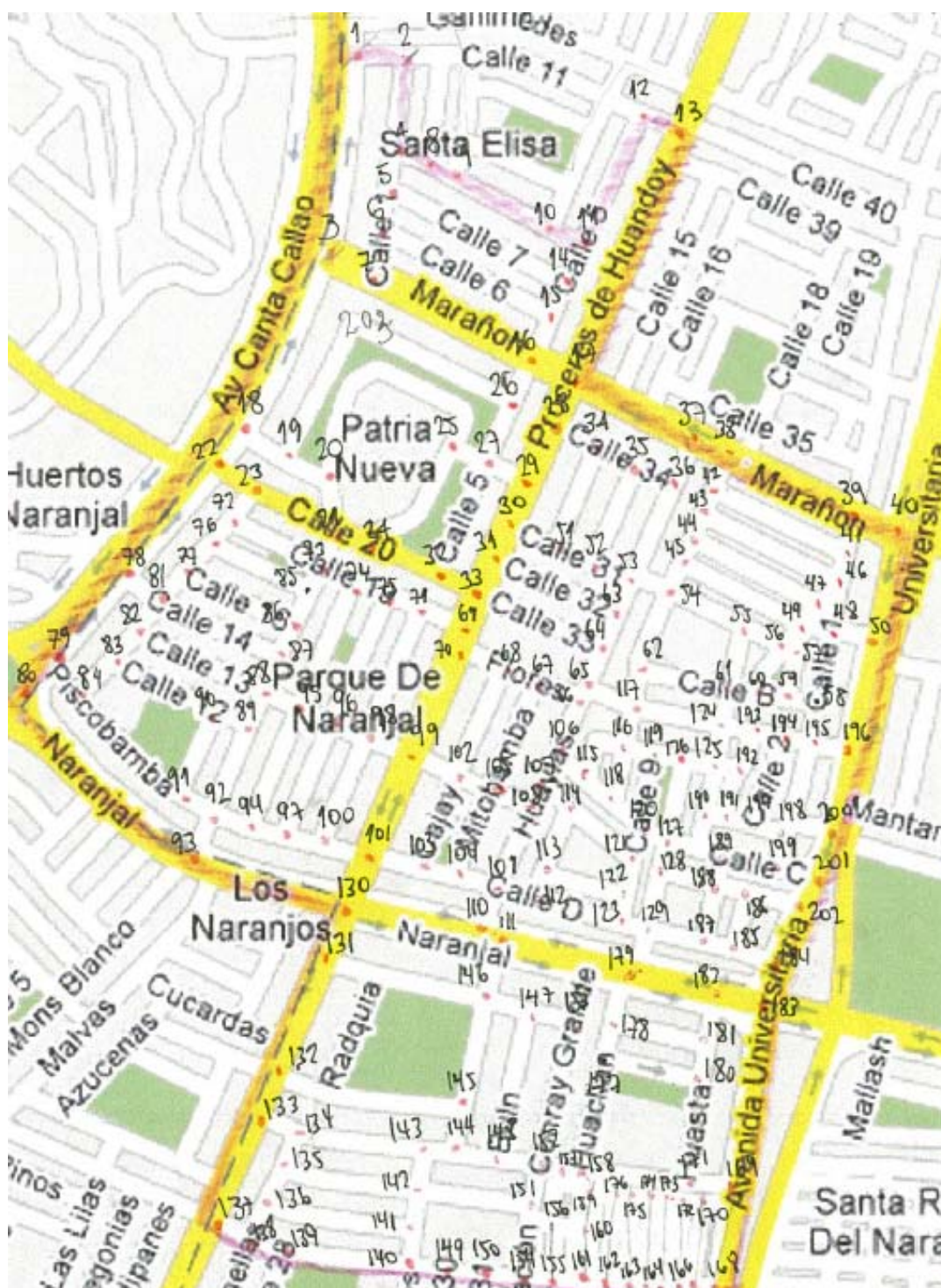
Mapa 5



Mapa 8



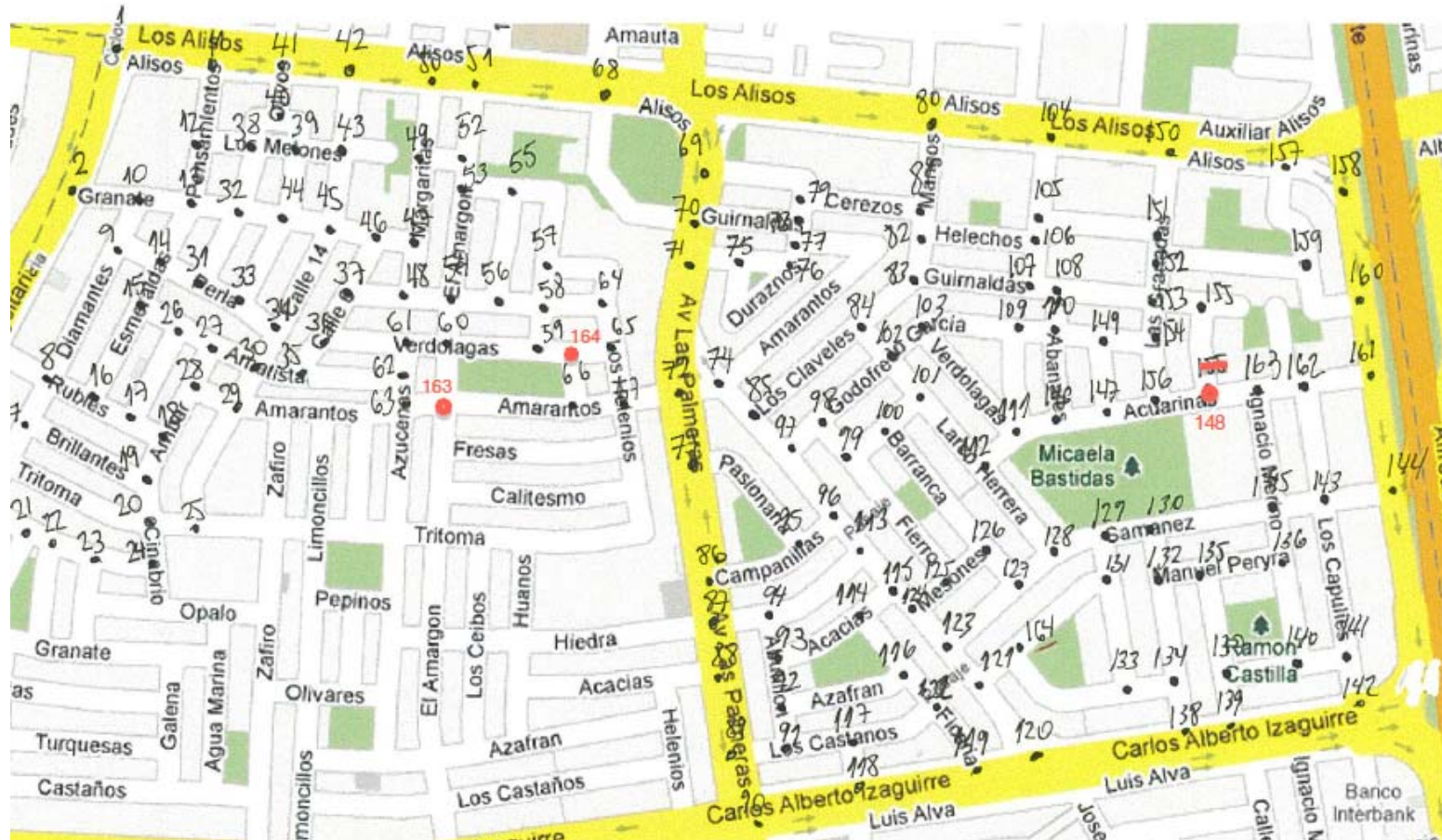
Mapa 10



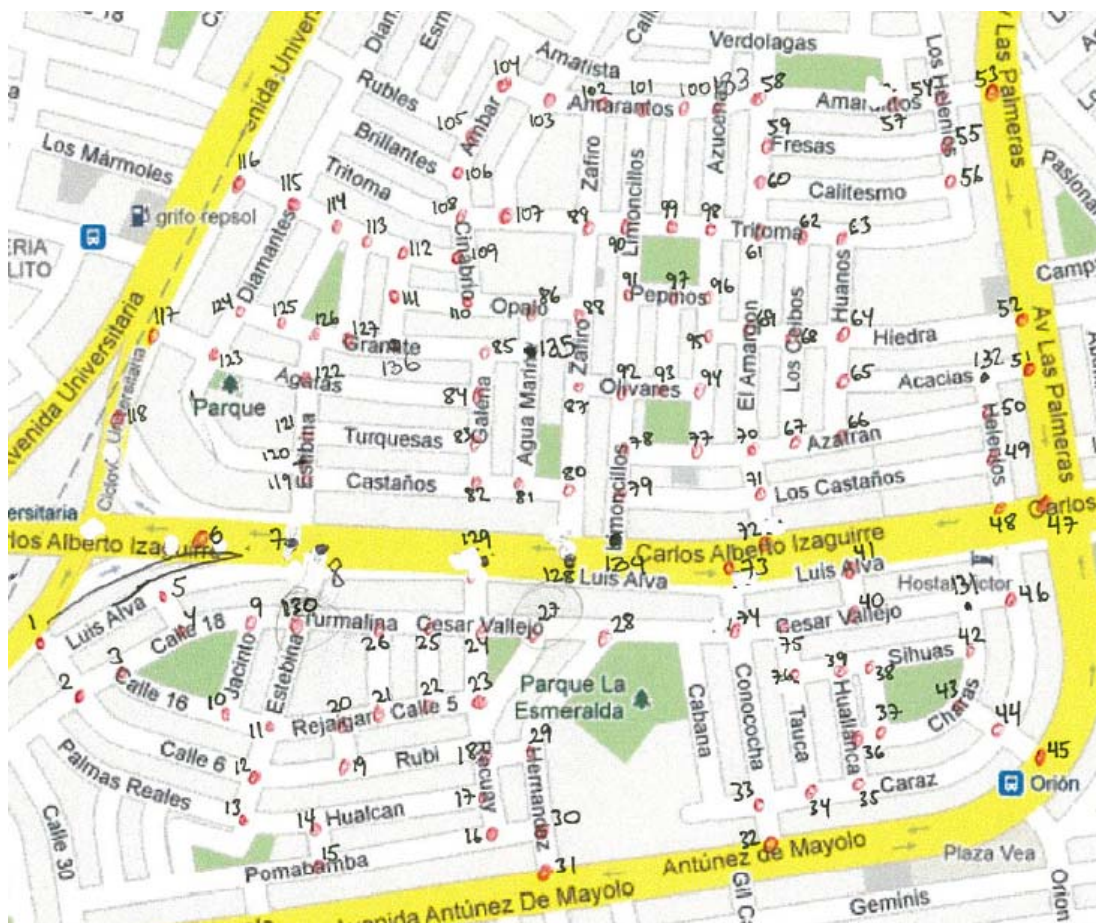


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Mapa 12

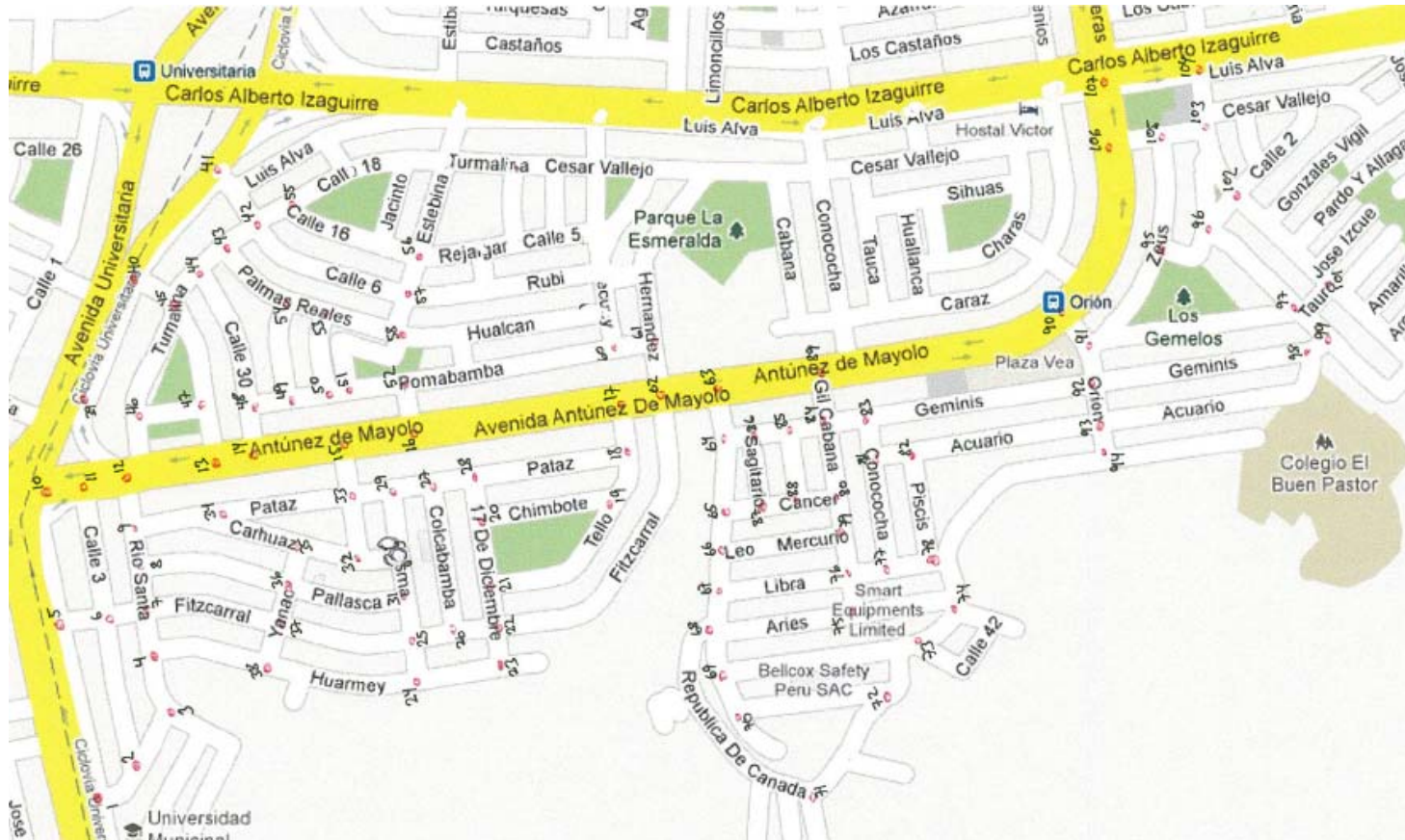


Mapa 13

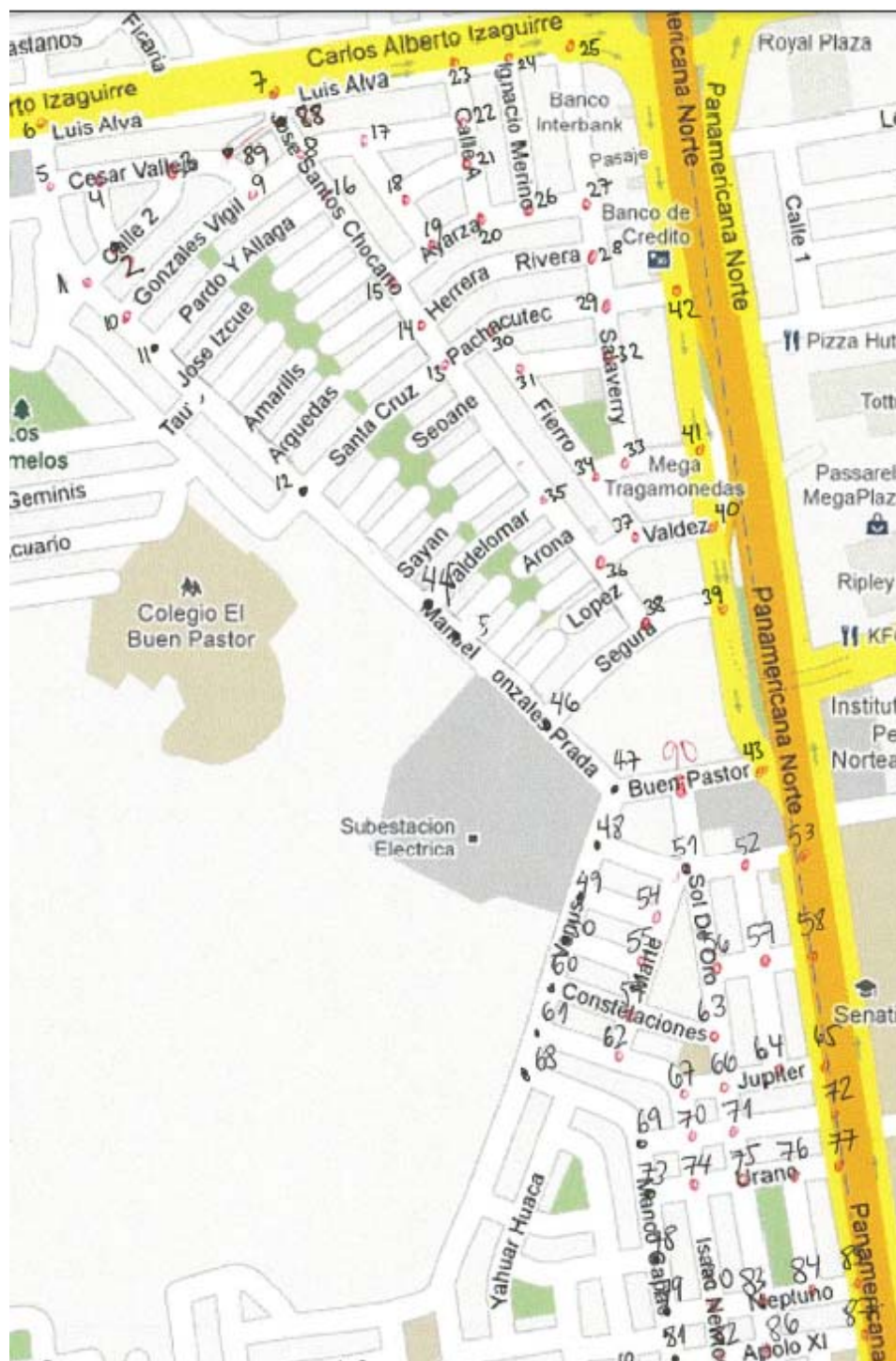




Mapa 14

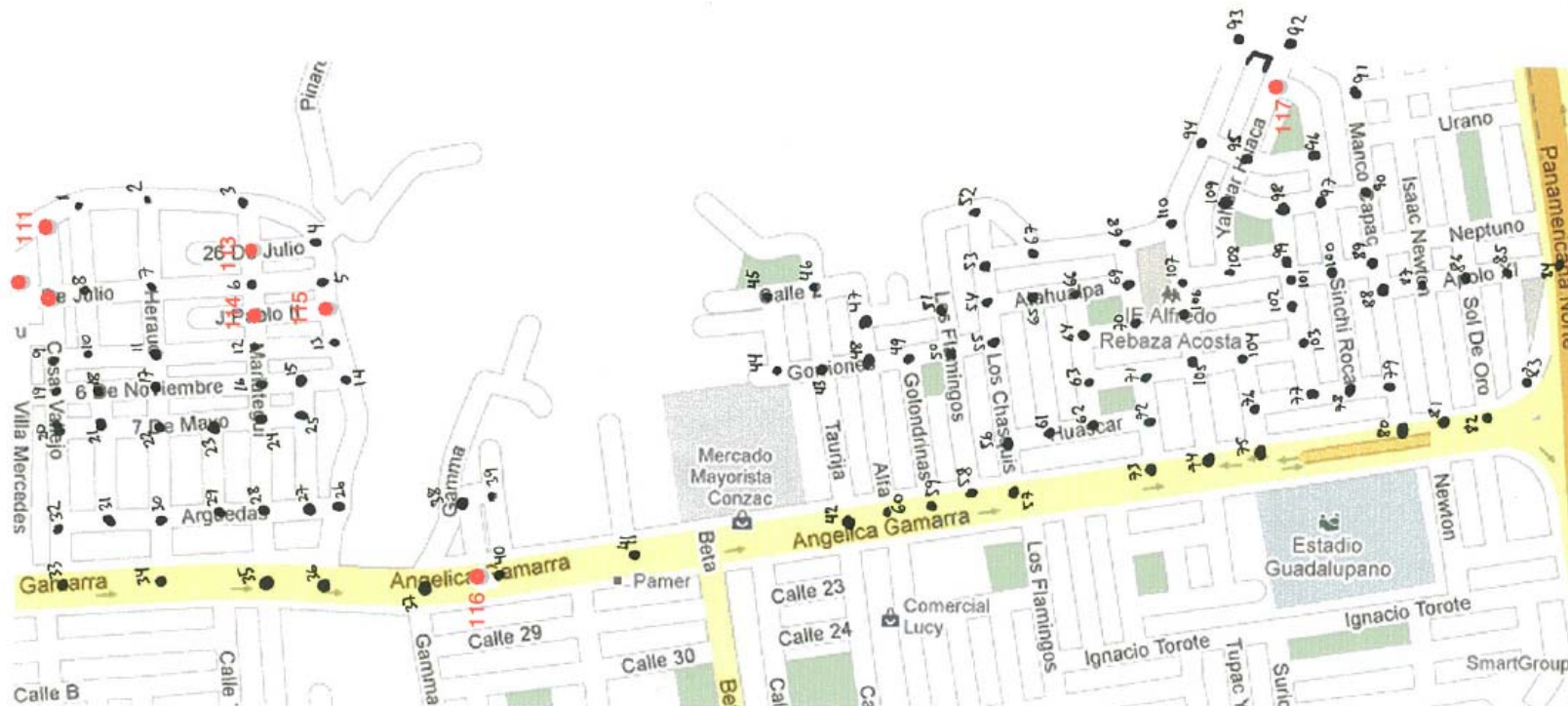


Mapa 15





Mapa 16



Mapa 17



Mapa 18



Anexo 6. Arcos posibles de cada mapa

Mapa 1

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	101.82
2	1	3	85.36
3	2	3	63.28
4	2	4	39.73
5	3	5	31.9
6	4	5	83.04
7	4	6	38.84
8	5	8	34.89
9	6	7	52.79
10	6	12	73.95
11	7	8	52.64
12	7	10	27.51
13	8	11	21.32
14	9	10	48.6
15	9	13	34.39
16	10	11	51.75
17	10	14	35.54
18	11	15	34.07
19	12	16	29.21
20	12	13	52.79
21	13	14	46.98
22	13	17	25.74
23	14	15	56.14
24	14	18	26.1
25	15	19	33.65
26	16	17	45.2
27	16	20	34.18
28	17	21	26.81
29	17	18	50.33
30	18	19	40.46
31	18	22	33.6
32	19	23	19.88
33	20	24	30.94
34	20	21	58.4

ARCO	INICIO	FIN	DIST. (m.)
35	21	25	33.9
36	21	22	52.58
37	22	26	31.68
38	22	23	44
39	23	27	35.32
40	24	25	44.09
41	24	28	26.13
42	25	26	51.39
43	25	29	21.66
44	26	27	41.52
45	26	30	23.51
46	27	31	31.05
47	28	29	44.01
48	28	32	33.74
49	29	30	47.94
50	29	33	34.35
51	30	31	39.25
52	30	34	31.45
53	31	35	5.95
54	32	33	45.65
55	32	36	31.97
56	33	34	50.93
57	33	37	23.51
58	34	35	38.4
59	34	38	22.35
60	35	39	30.41
61	36	37	47.4
62	36	40	37.76
63	37	38	48.6
64	37	41	33.69
65	38	39	37.99
66	38	42	33.52
67	39	43	32.8
68	40	41	44.3
69	40	44	22.43
70	41	42	50.46
71	41	45	23.05

ARCO	INICIO	FIN	DIST. (m.)
72	42	43	37.46
73	42	46	24.12
74	43	47	21.74
75	44	45	45.1
76	44	48	26.23
77	45	46	50.52
78	45	49	31.31
79	46	47	36.55
80	46	50	28.14
81	47	51	26.64
82	48	49	46.04
83	48	56	24.45
84	49	50	48.03
85	49	57	28.41
86	50	51	39.39
87	50	58	29.58
88	51	59	28.1
89	52	53	33.38
90	52	60	33.42
91	53	54	42.75
92	53	61	38.9
93	54	55	51.68
94	54	62	35.67
95	55	63	35.7
96	55	56	35.46
97	56	57	59.64
98	56	64	34.84
99	57	58	51.57
100	57	65	33.72
101	58	66	31.16
102	58	59	33.84
103	59	67	36.3
104	60	61	44.71
105	60	68	20.15
106	61	62	45.87
107	61	69	26.52
108	62	63	51.74
109	62	70	25.5
110	63	64	57.36
111	63	70	25
112	64	65	54.84
113	64	71	27.03

ARCO	INICIO	FIN	DIST. (m.)
114	65	66	49.88
115	65	72	26.65
116	66	13	27.9
117	67	75	25.81
118	68	69	49.36
119	68	76	31.66
120	69	70	44.13
121	69	77	32.44
122	70	71	48.34
123	70	78	30.42
124	71	72	59.77
125	71	79	34.3
126	72	73	53.37
127	72	80	32.61
128	73	74	48.13
129	73	81	29.92
130	74	75	48.58
131	74	82	31.05
132	75	85	25.94
133	76	77	52.16
134	76	84	26.93
135	77	78	45.81
136	77	85	22.14
137	78	79	49.16
138	78	86	24.06
139	79	80	60.8
140	79	87	25.26
141	80	81	63.05
142	80	88	23.34
143	81	82	48.99
144	81	89	21.77
145	82	83	46.52
146	82	90	24.04
147	83	91	35.64
148	84	85	47.35
149	84	92	33.4
150	85	86	47.94
151	85	93	37.11
152	86	87	49.2
153	86	94	35.07
154	87	88	54.13
155	87	95	38.28

ARCO	INICIO	FIN	DIST. (m.)
156	88	89	61.16
157	88	96	33.4
158	89	90	52.21
159	89	97	35.26
160	90	91	46.39
161	90	98	36.77
162	91	99	23.37
163	92	93	47.41
164	92	100	37.69
165	93	94	49.74
166	93	101	38.09
167	94	95	53.05
168	94	102	37.47
169	95	96	57.18
170	95	103	39.73
171	96	97	61.39
172	96	104	38.54
173	97	98	52.08
174	97	105	27.27
175	98	99	46.83
176	98	106	44.47
177	99	107	31.55
178	100	101	50.58
179	100	116	51.63
180	101	102	50.33
181	101	117	272.53
182	102	103	51.58
183	102	108	53.8
184	103	104	56.23
185	104	105	59.94
186	105	106	51.62
187	105	111	77.81
188	106	107	45.29
189	106	111	87.86
190	107	120	310.88
191	108	109	59.17
192	108	112	175.42
193	109	110	188.79
194	109	113	157.79
195	110	111	65.81
196	110	114	145.82
197	111	115	223.76

ARCO	INICIO	FIN	DIST. (m.)
198	112	118	55.94
199	112	113	56.86
200	113	114	127.71
201	114	115	47.61
202	115	119	46.4
203	116	121	48.35
204	116	117	60.67
205	117	118	53.83
206	118	119	234.17
207	119	120	63.37
208	120	125	60.22
209	121	122	68.4
210	121	126	57.82
211	122	123	54.38
212	123	218	52.16
213	124	125	72.53
214	125	132	157.61
215	126	128	60.74
216	127	128	86.09
217	128	135	79.85
218	129	130	48.04
219	130	218	205.34
220	131	132	58.8
221	132	146	301.59
222	133	138	56.24
223	134	144	21.74
224	135	144	217.11
225	136	137	53.95
226	138	139	72.27
227	139	141	54.5
228	140	141	198.55
229	141	142	60.22
230	142	143	57.78
231	143	219	84.73
232	144	219	44.49
233	145	146	122.79
234	146	151	123.85
235	147	152	64.2
236	148	147	205.37
237	149	150	54.91
238	150	219	68.73
239	151	159	54.38

ARCO	INICIO	FIN	DIST. (m.)
240	152	160	103.79
241	153	154	135.88
242	154	161	52.72
243	155	153	51.1
244	156	155	69.61
245	157	164	54.44
246	158	159	57.3
247	159	168	108.2
248	160	161	56.63
249	162	154	107.62
250	163	161	89.79
251	164	166	56.02
252	165	166	49.48
253	166	169	53.16
254	167	164	112.3
255	168	171	55.17
256	169	177	57.88
257	170	171	122.86
258	172	178	53.55
259	173	179	52.7
260	174	181	59.69
261	175	174	139.03
262	176	175	52.72
263	177	176	138.31
264	178	185	53.86
265	179	172	146.67
266	180	189	54.94
267	181	200	121.24
268	182	181	116.58
269	183	182	55.94
270	184	183	44.49
271	185	184	58.13
272	186	185	60.46
273	187	188	69.29
274	188	192	82.26
275	189	188	67.37
276	190	191	57.91
277	191	194	90.62
278	192	193	72.25
279	193	196	112.4
280	194	197	58.33
281	195	194	60.32

ARCO	INICIO	FIN	DIST. (m.)
282	196	195	106.16
283	197	198	57.75
284	199	219	59.82
285	201	200	72.39
286	202	201	129.8
287	203	202	53.48
288	204	203	57.86
289	205	210	205.92
290	206	211	150.17
291	207	206	55.17
292	208	207	62.15
293	209	210	57.68
294	210	211	53.12
295	211	212	52.69
296	212	215	61.04
297	213	214	55.22
298	214	215	166.42
299	215	216	60.99
300	218	124	62.96

Mapa 2

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	54.55
2	1	4	226.7
3	2	3	56.57
4	2	6	124.19
5	3	5	52.88
6	3	7	137.96
7	4	15	63.83
8	4	7	51.73
9	5	8	68.25
10	5	9	121.21
11	6	8	56.18
12	6	19	46.38
13	7	9	53.39
14	8	10	50.01
15	8	20	63.14
16	9	10	55.55
17	10	12	46.03
18	11	12	57.29
19	11	13	61.34
20	11	16	56.86
21	12	23	68.13
22	13	18	69.05
23	13	26	194.48
24	14	16	102.74
25	14	17	54.7
26	14	18	59.74
27	15	16	57.72
28	15	17	110.85
29	18	30	125.52
30	19	21	64.46
31	20	22	56.28
32	21	33	168.73
33	22	24	102.43
34	22	154	105.76
35	23	24	46.09
36	24	25	78.52
37	25	26	54.55
38	25	154	81.79

ARCO	INICIO	FIN	DIST. (m.)
39	26	35	59.85
40	27	30	69.01
41	27	28	53.81
42	27	36	115.43
43	28	29	71.53
44	28	51	217.89
45	29	32	56.28
46	29	48	235.49
47	30	31	164.19
48	31	32	47.34
49	33	34	57.05
50	33	38	65.18
51	34	35	182.26
52	34	38	59.81
53	34	154	62.88
54	35	44	67.93
55	36	52	122.99
56	36	44	66.83
57	37	38	105.96
58	37	44	53.29
59	37	45	61.69
60	38	39	45.91
61	39	40	45.37
62	39	46	55.55
63	40	41	138.41
64	41	42	58.61
65	41	47	73.04
66	42	43	60.8
67	42	57	164.4
68	43	58	159.75
69	44	60	162.08
70	45	46	123.86
71	45	53	49.13
72	46	47	140.41
73	46	54	44.09
74	47	55	54.2
75	48	49	66.14
76	48	51	81.68
78	49	50	108.3
79	49	62	166.03
80	50	78	56.52
81	50	83	225.77

ARCO	INICIO	FIN	DIST. (m.)
82	50	64	148.85
83	51	52	69.71
84	52	62	42.13
85	53	54	114.72
86	53	59	58.98
87	54	55	132.3
88	55	56	51.62
89	56	57	49.29
90	56	59	193.98
91	57	69	49.13
92	58	70	49.95
94	60	61	59.49
95	61	63	67.77
96	61	68	258.08
97	62	63	63.57
98	63	64	39.72
99	64	65	73.15
100	65	66	158.64
101	66	67	66.51
102	66	80	237.52
103	67	68	52.25
104	67	87	260.48
105	68	69	62.35
106	69	70	66.1
107	69	73	57.81
108	70	71	171.38
110	71	72	61.47
111	71	76	28.14
112	72	93	340.67
113	73	74	59.24
114	73	94	261.46
115	74	75	52.25
116	74	89	207.88
117	75	77	65.47
118	75	90	197.99
119	76	77	56.86
120	76	91	206.3
121	77	90	200.3
123	78	79	49.07
124	78	84	192.16
125	79	80	138.05
126	79	81	65.8

ARCO	INICIO	FIN	DIST. (m.)
127	80	86	54.55
128	81	86	151.75
129	81	82	56.28
130	82	99	220.14
131	82	85	48.17
132	83	84	56.52
133	83	107	79.35
134	84	85	46.73
135	85	100	203.26
136	86	88	65.8
137	87	88	61.16
138	87	94	63.27
139	88	97	58.61
140	88	99	59.58
141	89	90	44.46
142	89	95	56.52
143	90	91	56.28
144	91	92	47.26
145	92	93	51.62
146	92	96	152.35
147	92	103	51.88
155	92	103	49.29
148	93	114	217.95
149	94	95	56.28
150	94	97	52.25
151	95	96	37.46
152	96	98	57.29
153	97	101	106.81
154	98	102	51.62
156	99	100	56.18
157	100	110	76.08
158	101	111	63.48
159	101	106	80
161	102	104	119.55
162	102	106	56.13
163	103	104	54.55
164	104	105	47.26
165	105	106	114.89
166	107	108	60.8
167	107	134	244.01
168	108	115	66.91
169	108	109	206.72

ARCO	INICIO	FIN	DIST. (m.)
170	109	110	63.78
171	109	117	71.49
172	110	118	71.07
173	110	111	58.84
174	111	112	140.91
175	112	113	59.16
176	112	120	67.77
177	113	114	58.42
178	113	121	75.11
179	114	122	100.48
180	115	128	51.03
181	115	116	155.99
182	116	117	51.88
183	116	129	52.72
184	117	140	210.89
185	118	119	63.48
186	119	127	47.26
187	119	120	114.6
188	120	121	63.27
189	120	126	69.71
190	120	124	69.71
191	121	123	36.95
192	122	123	51.41
193	122	153	208.82
194	123	124	58.61
195	124	125	51.62
196	124	126	86.75
197	125	133	88.83
198	125	144	87.59
199	126	133	109.53
200	126	127	56.28
201	127	142	156.76
202	128	129	157.68
203	128	131	54.55
205	129	132	63.78
207	131	132	159.52
208	131	138	52.72
209	132	135	51.62
210	133	143	106.09
211	134	136	55
212	134	138	54.55
213	135	138	160.97

ARCO	INICIO	FIN	DIST. (m.)
214	135	139	53.8
215	136	137	61.16
217	137	139	159.95
218	137	146	71.99
219	139	140	57.29
220	140	141	64.63
221	141	145	40
222	141	142	52.25
223	142	143	59.16
224	142	150	86.18
225	143	144	99.5
226	143	151	71.99
227	144	152	60.93
228	145	146	271.96
229	145	149	55.54
230	146	148	60.66
231	147	148	59.89
232	148	149	269.76
233	149	150	60.76
234	150	151	45.91
235	151	152	103.72
236	152	153	88.09

Mapa 3

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	111.738
2	1	175	131.959
3	2	175	26.8964
4	2	9	228.141
5	3	5	96.222
6	3	4	64.3036
7	4	5	56.443
8	4	7	49.5261
9	5	6	51.4163
10	6	7	71.5185
11	6	10	113.311
12	7	8	108.506
13	8	174	42.1299
14	8	9	54.1326
15	9	11	45.8318
16	10	174	36.5976
17	10	15	101.12
18	11	12	93.6911
19	11	13	45.0316
20	12	174	46.9792
21	12	14	44.3403
22	13	14	96.4465
23	13	16	59.4572
24	14	12	44.5438
25	14	15	42.9839
26	15	18	57.4602
27	16	17	59.3537
28	16	58	287.716
29	17	18	85.7479
30	17	19	55.4252
31	18	22	63.2376
32	19	20	52.2553
33	19	54	114.92
34	20	21	54.3556
35	20	55	103.46
36	21	53	88.3253
37	21	56	100.515
38	22	23	65.3715
39	22	50	50.2983

ARCO	INICIO	FIN	DIST. (m.)
40	23	24	248.326
41	23	25	70.4159
42	24	25	188.947
43	24	26	47.9643
44	25	28	51.7565
45	26	32	166.811
46	26	27	46.5192
47	27	29	50.4069
48	27	28	137.467
49	28	30	45.9876
50	29	30	115.495
51	29	31	95.307
52	30	35	47.9639
53	31	32	49.6838
54	31	35	94.8976
55	32	33	95.2712
56	33	34	88.4953
57	33	47	81.9522
58	34	35	54.2256
59	34	48	40.7434
60	34	93	58.2035
61	36	37	54.5212
62	36	46	174.157
63	37	38	58.5438
64	37	40	84.6363
65	38	39	35.8722
66	38	40	81.6732
67	39	40	126.415
68	40	41	96.058
69	40	43	108.007
70	41	43	38.0154
71	41	42	82.116
72	42	45	164.052
73	43	44	86.1279
74	43	46	147.025
75	44	45	59.0387
76	44	99	198.776
77	45	103	45.943
78	46	47	73.3098
79	47	99	52.8333
80	47	49	51.3658
81	48	49	53.765

ARCO	INICIO	FIN	DIST. (m.)
82	48	97	116.25
83	49	98	114.433
84	50	53	58.0245
85	50	51	52.9607
86	51	52	76.817
87	52	62	68.5519
88	52	93	103.398
89	53	60	92.8147
90	54	57	95.6738
91	54	55	47.3191
92	55	56	52.1112
93	56	59	50.6227
94	57	59	98.5946
95	57	58	56.2804
96	57	63	49.2972
97	58	66	189.048
98	59	60	114.067
99	60	61	50.7305
100	60	85	50.7304
101	61	62	56.4883
102	62	92	148.747
103	62	88	125.93
104	63	83	118.844
105	63	64	35.3639
106	64	65	38.999
107	64	82	118.712
108	65	81	116.389
109	65	67	56.2801
110	66	67	51.8876
111	67	68	174.868
112	68	69	69.7163
113	68	80	81.3731
114	69	70	116.521
115	69	79	41.7546
116	69	72	173.35
117	70	71	107.242
118	70	72	148.421
119	71	73	53.2121
120	71	74	153.346
121	72	73	41.95
122	72	78	51.3316
123	72	77	102.261

ARCO	INICIO	FIN	DIST. (m.)
124	73	76	127.292
125	74	75	44.7831
126	74	76	70.8242
127	75	139	53.5802
128	75	147	163.07
129	76	77	60.5898
130	77	132	43.2479
131	78	79	190.029
132	78	132	65.7759
133	79	124	49.5179
134	80	81	87.4155
135	80	89	52.5153
136	81	82	40.9626
137	82	83	35.2285
138	83	84	50.7304
139	84	85	48.5999
140	84	89	155.51
141	85	86	90.8845
142	86	87	51.7296
143	86	90	51.7428
144	87	88	49.9164
145	87	61	131.039
146	88	92	78.7039
147	89	90	49.5181
148	90	91	68.5811
149	90	95	187.335
150	91	123	70.9586
151	92	95	51.7429
152	94	93	141.125
153	94	96	71.6929
154	95	94	55.4246
155	96	107	58.1966
156	97	98	51.0121
157	97	107	70.1267
158	98	100	53.9581
159	99	100	62.8148
160	100	101	84.7516
161	101	104	91.9398
162	101	102	47.9103
163	102	103	129.901
164	102	105	115.827
165	103	106	130.878

ARCO	INICIO	FIN	DIST. (m.)
166	104	105	42.8681
167	104	109	100.692
168	105	106	50.2572
169	107	108	55.6121
170	108	109	91.6473
171	108	110	76.1782
172	109	111	75.8354
173	110	111	91.2776
174	110	112	42.9673
175	111	113	57.3434
176	111	114	201.642
177	112	113	91.0565
178	112	120	68.7698
179	113	115	197.956
180	113	119	62.7819
181	114	115	58.8417
182	114	106	107.409
183	115	116	64.7831
184	116	117	49.0887
185	116	170	172.882
186	117	118	57.2896
187	117	169	179.29
188	118	167	135.665
189	118	119	86.4413
190	119	120	88.9401
191	120	121	51.8874
192	120	164	133.887
193	121	122	62.4654
194	121	163	177.315
195	121	107	175.006
196	122	157	80.0021
197	122	96	160.295
198	123	96	172.211
199	123	127	73.1753
200	124	91	94.2395
201	124	125	71.0738
202	125	126	55.0659
203	125	128	96.8328
204	126	127	99.4003
205	126	129	122.948
206	127	130	138.316
207	128	78	63.8806

ARCO	INICIO	FIN	DIST. (m.)
208	128	129	77.0185
209	129	130	104.329
210	129	131	39.0927
211	130	157	164.449
212	131	132	95.3047
213	131	135	45.4828
214	132	134	48.921
215	133	134	44.8898
216	133	139	104.573
217	134	135	120.631
218	134	137	61.1617
219	135	136	45.3739
220	135	152	178.462
221	136	137	105.319
222	136	151	66.0967
223	137	142	47.6772
224	138	140	75.4068
225	138	141	58.945
226	139	140	57.2273
227	139	148	144.091
228	140	149	133.697
229	141	142	54.7544
230	141	149	168.249
231	142	143	39.7953
232	143	151	197.479
233	143	145	114.064
234	143	144	43.8589
235	144	155	154.238
236	144	146	114.578
237	145	150	61.9707
238	145	146	48.3734
239	147	148	54.1272
240	148	149	53.4035
241	149	150	29.5822
242	151	153	51.1049
243	152	153	45.942
244	152	154	49.421
245	153	155	121.022
246	154	156	175.984
247	154	158	54.555
248	155	156	50.904
249	156	161	54.5547

ARCO	INICIO	FIN	DIST. (m.)
250	157	158	54.367
251	158	159	39.1906
252	159	163	61.1619
253	159	160	58.2112
254	160	161	74.0644
255	160	162	57.681
256	162	171	127.932
257	163	165	50.9042
258	164	167	172.186
259	164	165	42.3227
260	165	166	75.5159
261	166	171	50.9042
262	166	168	99.1454
263	167	168	42.6441
264	168	169	53.4042
265	169	170	55.0036
266	170	173	55.7065
267	171	172	150.043
268	172	173	55.7064
269	175	3	19.1021

Mapa 4

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	67.2856
2	1	6	137.071
3	2	3	48.3734
4	3	4	105.96
5	3	6	144.909
6	4	5	54.3068
7	4	11	158.733
8	5	9	49.2994
9	5	11	159.183
10	6	7	59.6296
11	7	8	59.4586
12	7	41	133.923
13	8	16	89.8498
14	8	40	58.4211
15	9	10	65.2909
16	9	16	71.9981
17	10	15	94.4803
18	10	17	108.256
19	11	12	107.763
20	12	13	26.621
21	12	14	76.003
22	13	15	68.6534
23	13	19	191.209
24	14	20	56.9356
25	15	18	164.043
26	16	17	35.3629
27	17	18	51.5764
28	18	19	60.0717
29	19	25	58.7852
30	19	51	57.7543
31	20	21	130.237
32	20	163	52.254
33	21	162	52.254
34	21	32	147.636
35	22	23	89.6444
36	23	26	91.1468
37	23	27	139.213
38	24	25	58.399

ARCO	INICIO	FIN	DIST. (m.)
39	24	26	50.9038
40	25	38	139.96
41	26	27	48.9137
42	27	30	36.0228
43	28	29	179.046
44	28	31	51.3912
45	29	30	39.1903
46	30	38	59.0749
47	31	33	49.7512
48	31	36	179.623
49	32	33	49.9567
50	32	34	55.1306
51	34	35	56.0181
52	34	74	350.898
53	34	159	150.043
54	35	79	207.907
55	35	90	57.539
56	36	37	43.9988
57	37	33	179.452
58	37	39	58.9911
59	38	39	140.624
60	38	57	60.5104
61	39	160	57.4434
62	40	42	74.3761
63	41	45	118.84
64	42	44	102.428
65	43	44	130.052
66	43	51	54.5542
67	44	45	64.2735
68	44	48	52.2532
69	45	46	103.046
70	46	47	50.7285
71	46	62	45.9856
72	47	48	48.5982
73	47	60	122.321
74	48	49	30.0399
75	48	165	21.3216
76	49	50	50.9034
77	49	54	95.1024
78	50	51	50.9035
79	50	53	96.831
80	51	52	102.001

ARCO	INICIO	FIN	DIST. (m.)
81	52	53	53.2113
82	52	56	49.4203
83	53	54	51.8863
84	54	55	49.0458
85	55	56	96.6688
86	55	58	45.9413
87	56	57	44.9501
88	57	58	100.301
89	57	69	50.729
90	58	68	50.5806
91	59	60	88.1418
92	59	76	119.305
93	60	61	51.5296
94	61	164	93.3169
95	61	62	146.835
96	62	63	56.9772
97	62	76	208.334
98	62	64	49.7505
99	63	66	144.854
100	64	65	71.1579
101	64	77	240.89
102	65	66	61.3052
103	65	67	166.235
104	67	78	113.11
105	67	101	63.2672
106	68	69	101.458
107	68	72	38.041
108	69	70	34.0651
109	70	72	99.1439
110	70	71	48.4156
111	71	73	99.1439
112	71	74	60.5104
113	72	73	48.8087
114	73	75	58.9908
115	74	75	101.807
116	74	98	132.934
117	75	99	68.7683
118	75	78	51.6225
119	76	77	48.8086
120	77	78	57.5379
121	79	80	202.102
122	79	86	55.5228

ARCO	INICIO	FIN	DIST. (m.)
123	80	81	54.3677
124	81	124	103.123
125	81	82	55.2273
126	82	123	66.5096
127	82	83	38.0421
128	83	122	63.7851
129	83	84	36.6902
130	84	121	67.619
131	84	85	35.5371
132	85	120	66.4683
133	85	86	41.1619
134	86	119	70.8913
135	86	87	94.7019
136	87	118	72.4248
137	87	88	37.1337
138	88	117	70.7271
139	88	89	35.3635
140	89	116	74.7255
141	89	90	41.3106
142	90	115	76.0834
143	90	91	38.9986
144	91	114	118.52
145	91	92	35.9947
146	92	113	117.176
147	92	93	130.237
148	93	111	114.87
149	93	94	40
150	94	110	167.118
151	94	95	40.0006
152	95	109	173.074
153	95	96	60.3185
154	96	106	114.869
155	97	98	50.2423
156	97	105	61.3394
157	98	106	77.4093
158	99	100	132.015
159	99	105	90.8819
160	100	101	47.1249
161	100	166	117.781
162	101	102	137.449
163	102	103	53.044
164	103	104	194.653

ARCO	INICIO	FIN	DIST. (m.)
165	104	107	124.101
166	106	161	55.9139
167	107	142	220.075
168	108	109	26.1269
169	108	144	142.096
170	109	110	42.3224
171	110	112	37.6808
172	111	112	54.2032
173	111	113	131.391
174	112	144	86.6376
175	113	114	36.2781
176	114	130	35.228
177	115	130	32.7997
178	115	116	38.5409
179	116	117	35.1505
180	117	118	38.0418
181	118	119	93.3662
182	119	120	40.8122
183	119	126	39.191
184	120	121	37.8441
185	121	122	35.9952
186	122	123	45.6296
187	123	157	39.9332
188	124	157	61.3078
189	124	132	171.079
190	125	134	156.525
191	125	126	52.4763
192	126	127	61.7954
193	126	135	158.345
194	127	136	156.052
195	127	128	51.1053
196	128	137	151.47
197	128	129	52.0581
198	129	138	168.333
199	130	131	92.3463
200	131	112	159.972
201	131	144	175.749
202	131	138	154.632
203	132	149	194.549
204	132	133	71.3861
205	133	146	47.4126
206	133	134	122.372

ARCO	INICIO	FIN	DIST. (m.)
207	134	147	50.2367
208	134	135	48.0239
209	135	136	59.0067
210	136	137	51.3918
211	137	138	35.995
212	138	140	178.555
213	138	139	57.5456
214	139	140	170.311
215	139	141	158.667
216	140	144	113.936
217	141	167	190.882
218	141	145	140.42
219	142	167	70.2251
220	143	145	102.205
221	144	167	28.0668
222	144	156	143.877
223	145	144	162.415
224	146	158	140.717
225	147	150	51.3089
226	148	149	76.8435
227	149	153	149.44
228	150	151	84.3394
229	150	156	238.212
230	151	154	51.1358
231	152	153	53.7047
232	152	154	143.35
233	153	155	142.921
234	154	155	59.3616
235	155	156	53.7901
236	157	125	107.479
237	158	148	32.2247
238	158	151	116.601
239	159	93	66.4673
240	159	160	143.493
241	160	74	55.9138
242	160	96	63.4941
243	161	107	44.2308
244	161	108	37.6807
245	162	22	82.0404
246	162	28	45.9419
247	163	22	51.0963
248	163	24	181.365

ARCO	INICIO	FIN	DIST. (m.)
249	164	63	200.695
250	165	59	166.396
251	165	47	44.9498
252	166	102	54.1268
253	166	105	143.78



Mapa 5

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	51.62
2	1	7	140.29
3	2	4	63.27
4	2	3	167.89
5	3	6	69.2
6	4	8	102.93
7	4	5	64.17
8	5	6	98.4
9	5	9	123.85
10	6	11	155.99
11	7	16	56.28
12	7	8	57.29
13	8	9	69.71
14	9	10	52.25
15	10	11	47.26
16	11	12	108.4
17	12	13	94.89
18	13	14	59.58
19	13	29	114.12
20	14	15	66.47
21	15	16	55
22	16	10	153.34
23	17	18	125.26
24	17	25	114.12
25	18	19	82.88
26	19	20	143.92
27	19	23	128.01
28	20	21	170
29	20	23	144.78
30	21	22	121.02
31	21	24	201.31
32	22	33	117.05
33	23	24	108.13
34	24	27	111.83

ARCO	INICIO	FIN	DIST. (m.)
35	25	26	83.41
36	25	29	300.81
37	26	30	302.06
38	26	27	113.72
39	27	28	127.57
40	27	31	302.06
41	28	33	209.86
42	28	34	190.21
43	30	31	121.92
44	30	32	107.72
45	31	35	122.61
46	32	36	242.89
47	33	38	270.2
48	34	40	283.91
49	34	35	116.02
50	34	44	113.72
51	35	36	827.2
52	36	48	978.47
53	38	39	253.96
54	39	41	382.71
55	39	97	250.23
56	40	41	408.83
57	41	42	178.29
58	42	44	90.68
59	45	46	330.88
60	45	51	627.85
61	45	48	319.66
62	46	52	77.68
63	46	52	85.28
64	47	52	93.12
65	47	51	175.18
66	47	54	80.34
67	48	56	80.67
68	48	49	160.96
69	49	50	274.52
70	49	57	64.63
71	50	51	163.79
72	50	53	340.5

ARCO	INICIO	FIN	DIST. (m.)
73	52	55	90.75
74	53	54	76.54
75	53	58	1195.6
76	54	62	78.34
77	55	88	81.12
78	55	62	168.26
79	56	57	79.34
80	56	65	170.2
81	57	58	105.44
82	57	66	73.38
83	58	59	112.8
84	58	62	68.77
85	59	60	73.38
86	59	63	73.78
87	60	61	77.99
88	60	64	344.7
89	61	62	340.14
90	61	75	105.44
91	62	76	99.83
92	63	64	108.25
93	63	68	84.64
94	64	69	140.69
95	65	66	73.37
96	65	70	142.54
97	66	67	113.04
98	66	71	146.4
99	67	68	109.53
100	67	72	140.24
101	68	69	139.42
102	68	73	439.5
103	69	74	82.81
104	70	80	77.68
105	70	71	120.29
106	71	72	117.67
107	72	73	74.26
108	73	74	77.68
109	74	75	494.5
110	75	76	148.71

ARCO	INICIO	FIN	DIST. (m.)
111	76	85	183.22
112	77	78	119.15
113	77	83	236.85
114	78	79	57.28
115	78	83	75.68
116	79	80	176.68
117	80	81	105.25
118	81	82	61.87
119	82	100	120.63
120	82	103	49.95
121	83	84	128.31
122	84	86	54.55
123	84	88	177.01
124	86	85	55.41
125	86	87	51.88
126	87	91	211.83
127	88	89	223.1
128	89	85	170.07
129	90	85	49.3
130	90	89	100.89
131	93	17	371.22
132	93	15	662.31
133	94	106	59.58
134	94	96	396.8
135	96	41	40.21
136	96	97	368.51
137	99	90	226.71
138	99	88	65.09
139	99	81	311.62
140	100	101	144.08
141	100	103	300.06
142	101	104	315
143	101	102	115.66
144	102	105	301.6
145	103	104	545.2
146	104	105	152.6
147	106	55	133.93
148	106	52	194.51

Mapa 6

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	39.4142
2	1	38	549.345
3	2	3	53.6324
4	2	6	163.469
5	3	4	56.8555
6	3	15	349.356
7	4	5	109.956
8	4	14	303.735
9	5	6	59.2614
10	5	11	106.732
11	6	7	63.9461
12	7	8	59.0718
13	7	37	244.377
14	8	9	48.8063
15	8	36	245.091
16	9	10	50.649
17	9	35	239.297
18	10	11	40.0436
19	10	34	242.325
20	11	12	57.3696
21	12	13	109.469
22	12	33	259.588
23	13	14	52.2858
24	13	78	52.1724
25	14	15	58.4913
26	15	16	50.0083
27	16	17	55.4204
28	16	22	339.362
29	17	18	51.4924
30	17	21	290.479
31	18	19	55.2603
32	18	20	234.792
33	19	20	259.059
34	20	21	48.4868
35	21	21	63.3609
36	22	23	67.8047
37	23	24	67.2207
38	23	29	219.085

ARCO	INICIO	FIN	DIST. (m.)
39	24	25	66.6701
40	24	59	205.257
41	25	26	53.208
42	25	50	156.083
43	26	27	56.2781
44	26	49	158.38
45	27	28	50.1472
46	27	48	158.043
47	28	29	57.4307
48	28	47	156.648
49	29	30	55.9377
50	30	31	55.2285
51	30	32	72.666
52	30	39	153.186
53	31	40	150.862
54	31	42	104.777
55	32	33	59.8318
56	32	39	83.6107
57	33	34	49.7478
58	34	35	50.81
59	35	36	51.2281
60	36	37	55.8035
61	37	77	45.1802
62	38	45	267.411
63	39	40	58.4225
64	40	41	103.531
65	41	42	151.454
66	41	43	50.9002
67	43	46	151.454
68	43	44	54.306
69	44	54	159.993
70	44	45	171.715
71	44	55	243.926
72	46	54	49.5686
73	46	47	55.5178
74	47	48	48.5952
75	48	49	70.8848
76	49	50	51.619
77	50	51	52.5753
78	51	52	48.1294
79	51	59	60.9332
80	51	58	191.835

ARCO	INICIO	FIN	DIST. (m.)
81	52	53	77.9905
82	53	57	125.426
83	54	55	170.193
84	55	72	58.9864
85	56	82	47.6589
86	56	57	47.4436
87	58	80	51.3269
88	58	60	65.5308
89	60	59	201.12
90	60	61	63.0899
91	61	62	69.1983
92	61	66	171.78
93	61	68	480.98
94	62	63	45.5648
95	62	72	266.659
96	63	64	53.7557
97	63	71	271.206
98	64	70	281.225
99	64	65	73.6415
100	65	69	287.353
101	65	66	70.8836
102	66	67	488.622
103	67	68	255.896
104	69	70	66.361
105	70	71	56.7602
106	71	72	64.1971
107	73	75	272.363
108	73	44	67.4205
109	73	75	272.363
110	74	73	61.6571
111	74	69	579.639
112	75	76	60.5067
113	76	38	52.0541
114	76	74	247.301
115	77	76	20.1689
116	78	12	50.4024
117	78	19	54.7637
118	79	57	91.0477
119	79	52	126.316
120	80	56	101.759
121	80	79	58.4167
122	81	53	50.9

ARCO	INICIO	FIN	DIST. (m.)
123	81	54	58.0067
124	82	81	176.96

Mapa 7

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	173.77
2	1	4	54.46
3	2	3	50.23
4	2	5	86.88
5	3	12	561.92
6	4	5	164.6
7	4	8	158.55
8	5	9	196.59
9	6	7	55.52
10	6	11	154.89
11	7	8	75.04
12	7	10	133.5
13	8	9	56.96
14	9	10	172.37
15	10	11	51.04
16	11	12	54.93
17	12	13	66.36
18	12	99	308.36
19	13	14	53.86
20	13	37	47.52
21	14	15	177.74
22	14	39	122.32
23	15	16	167.6
24	15	40	79.31
25	16	41	63.36
26	16	17	54.15
27	17	18	57.98
28	17	46	44.43
29	18	19	160.63
30	18	47	43.66
31	19	20	230.36
32	19	49	42.52
33	20	21	190.19
34	20	52	60.57
35	21	22	209.48
36	21	31	64.76
37	22	23	47.75
38	22	24	64.52
39	23	25	150.24
40	25	26	49.91
41	25	27	60.1
42	26	28	58.1

ARCO	INICIO	FIN	DIST. (m.)
43	26	29	79.55
44	27	28	50.64
45	27	75	50.25
46	28	35	99.31
47	29	30	74.77
48	29	35	47.9
49	30	32	61.93
50	30	34	51.41
51	31	32	47.44
52	32	33	51.62
53	32	52	171.75
54	33	34	65.55
55	33	53	178.77
56	34	35	73.61
57	34	72	54.33
58	36	37	133.88
59	36	96	52.32
60	36	100	104.04
61	37	38	68.19
62	38	91	56.71
63	38	96	124.39
64	39	40	196.26
65	39	91	29.74
66	40	41	142.27
67	41	42	50.02
68	42	43	96.27
69	42	92	314.27
70	42	43	85.06
71	43	44	46.52
72	43	93	269.66
73	44	45	53.32
74	45	46	204.51
75	45	60	58.6
76	46	47	56.6
77	47	48	51.79
78	47	59	188.97
79	48	49	99.61
80	50	51	54.19
81	50	57	190
82	51	52	51.74
83	51	56	197.22
84	52	53	54.38
85	53	54	51.53
86	54	55	108.7
87	54	65	56.11
88	55	63	57.32
89	55	67	57.25

ARCO	INICIO	FIN	DIST. (m.)
90	56	57	51.49
91	56	62	60.36
92	57	58	177.2
93	58	59	51.78
94	59	61	57
95	60	61	54.64
96	60	95	276
97	61	62	267.56
98	62	63	55.61
99	63	64	116.46
100	64	68	59.61
101	64	90	104.63
102	65	66	55.02
103	65	69	120.39
104	66	67	54.94
105	66	70	119.19
106	67	68	42.9
107	68	89	80.03
108	69	70	49.29
109	69	71	50.82
110	70	89	65.29
111	71	72	18.15
112	71	87	116.62
113	72	73	30.38
114	73	74	66.02
115	73	86	117.67
116	74	75	142.52
117	74	79	52.02
118	75	76	50.25
119	76	77	53.02
120	76	84	167.24
121	77	78	52.73
122	77	82	82.65
123	78	79	49.74
124	78	81	75.23
125	79	80	73.63
126	80	81	63.94
127	80	85	60.18
128	80	86	59.11
129	81	82	60.76
130	82	83	62.12
131	83	84	67.79
132	83	85	103.49
133	85	90	134.49
134	86	87	46.15
135	87	88	25.15
136	88	89	23.37

ARCO	INICIO	FIN	DIST. (m.)
137	88	90	58.22
138	91	92	29.75
139	92	93	21.52
140	93	94	96.48
141	93	97	184.67
142	94	95	57.6
143	94	98	157.24
144	95	103	222.15
145	96	97	189.31
146	97	98	50.19
147	98	101	48.6
148	99	100	39.38
149	99	102	237.64
150	100	101	202.49
151	101	102	43
152	102	103	56.87

Mapa 8

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	60.76
2	2	16	125.41
3	3	4	36.58
4	4	9	136.94
5	5	6	94.05
6	6	8	50.44
7	7	8	100.37
8	8	138	112
9	9	13	47.32
10	10	13	65.86
11	11	12	63.82
12	12	13	55.54
13	14	15	89.93
14	15	16	57.48
15	16	17	40.88
16	17	18	129.85
17	18	30	107.9
18	19	20	60.08
19	20	46	148.93
20	21	22	79.07
21	22	23	80.58
22	23	88	59.12
23	24	25	125.84
24	25	31	102.74
25	26	39	54.35
26	27	28	107.21
27	28	29	52.25
28	29	45	95.35
29	30	31	62.92
30	31	32	45.13
31	32	35	111.6
32	33	34	51.73
33	34	50	213.08
34	35	44	150.32
35	36	37	38.68
36	37	38	40.81
37	38	39	46.56
38	39	40	141.18

ARCO	INICIO	FIN	DIST. (m.)
39	40	41	44.95
40	41	80	70.3
41	42	78	87.84
42	43	44	42.96
43	44	76	174.54
44	45	46	72.9
45	46	47	56.86
46	47	48	82.82
47	48	51	108.4
48	50	68	238.41
49	51	52	80.68
50	52	53	118.33
51	53	55	82.09
52	54	55	49.57
53	55	56	58.84
54	56	57	167.9
55	57	59	52.73
56	58	59	87.3
57	59	73	552.17
58	60	61	162.71
59	62	65	35.13
60	55	65	233
61	65	66	70.14
62	66	67	63.78
63	67	133	160.29
64	68	69	71.07
65	69	74	123.87
66	70	71	167.74
67	71	72	59.71
68	72	73	62.09
69	73	74	65.85
70	74	76	57.05
71	76	79	77.15
72	77	78	55.74
73	78	79	57.48
74	79	82	43.47
75	80	81	47.32
76	81	85	62.92
77	82	83	53.29
78	83	84	92.68

ARCO	INICIO	FIN	DIST. (m.)
79	84	101	47.03
80	85	86	59.9
81	86	87	53.39
82	87	88	113.95
83	88	89	51.25
84	89	90	59.9
85	90	96	108.05
86	91	93	58.98
87	92	94	64.29
88	93	98	112.94
89	94	111	64.93
90	95	100	57.71
91	96	97	68.25
92	97	98	60.76
93	98	99	56.47
94	99	100	194.7
95	100	101	58.56
96	101	102	185.22
97	102	103	70.3
98	103	104	58.42
99	104	105	70.73
100	105	106	51.88
101	106	134	43.09
102	107	134	54.35
103	108	131	115.43
104	109	110	58.61
105	110	112	50.17
106	111	112	48.79
107	112	116	207.97
108	113	114	119.15
109	114	115	50.17
110	115	131	93.29
111	116	117	59.9
112	117	135	40.88
113	118	119	58.6
114	119	120	52.51
115	120	121	44.09
116	121	122	50.17
117	122	123	98.5
118	123	126	103.45
119	124	125	175.56
120	125	129	58.42

ARCO	INICIO	FIN	DIST. (m.)
121	126	127	76.86
122	127	128	40.81
123	128	129	65.18
124	130	132	191.61
125	131	137	70.95
126	1	3	125.45
127	2	11	44.46
128	3	10	56.52
129	4	5	52.51
130	5	7	48.17
131	6	14	116.98
132	9	14	51.73
133	10	11	61.34
134	12	15	42.9
135	17	24	120.94
136	19	45	168.27
137	21	26	139.35
138	23	92	251.13
139	25	35	48.17
140	28	30	38.33
141	29	49	33.05
142	33	49	113.06
143	34	68	138.85
144	35	36	37.75
145	36	43	141.17
146	37	42	150.75
147	38	41	138.09
148	40	81	62.92
149	41	42	55.74
150	42	43	54.48
151	43	78	158.74
152	47	52	117.98
153	48	49	102.47
154	50	133	73.19
155	51	54	61.16
156	53	58	285.87
157	54	66	211.88
158	55	65	219.57
159	56	61	56.08
160	57	60	85.38
161	60	70	194.4
162	61	62	155.09

ARCO	INICIO	FIN	DIST. (m.)
163	66	71	134.12
164	67	72	152.86
165	78	80	56.28
166	80	82	58.56
167	81	83	53.29
168	84	103	165.38
169	85	101	53.39
170	86	100	58.61
171	87	95	52.25
172	89	95	112.94
173	90	91	81.12
174	91	97	114.95
175	92	93	54.35
176	95	96	57.64
177	99	102	56.9
178	102	105	64.29
179	104	132	232.42
180	105	111	351.63
181	106	131	177.42
182	107	109	145.29
183	108	113	151.62
184	109	113	53.34
185	110	117	202.87
186	114	135	44.09
187	115	122	128.61
188	116	118	121.51
189	117	119	131.94
190	120	124	151.53
191	121	135	75.5
192	123	124	48.17
193	125	130	60.75
194	126	129	50.33
195	127	136	106.42
196	128	131	36.28
197	131	132	56.52

Mapa 9

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	52.85
2	1	136	261.08
3	2	3	126.41
4	2	98	181.66
5	3	96	49.82
6	3	4	93.7
7	4	94	49.43
8	4	5	52.06
9	5	93	98.65
10	6	92	102.3
11	6	7	52.06
12	7	90	48.17
13	7	8	80.3
14	8	9	52.2
15	8	89	53.21
16	9	10	51.3
17	10	11	51.68
18	11	12	134.2
19	12	71	48.5
20	12	13	134.67
21	13	14	91.21
22	13	70	80.92
23	14	56	86.51
24	14	15	55.52
25	15	54	141.03
26	15	16	53.4
27	16	53	139.93
28	16	17	48.41
29	17	52	134.03
30	17	18	113.14
31	18	19	47.45
32	18	32	368.79
33	19	20	70.71
34	20	29	50.25
35	20	21	93.7
36	21	22	43.78
37	21	29	152.9
38	22	23	153.72

ARCO	INICIO	FIN	DIST. (m.)
39	22	138	58
40	23	24	51.31
41	23	25	65.09
42	24	34	205.48
43	25	26	87.37
44	25	138	162.63
45	26	33	49.7
46	26	27	188.88
47	27	28	49.9
48	27	138	76.17
49	28	29	40.52
50	28	33	211.79
51	30	31	48.5
52	30	51	91.14
53	30	52	121.76
54	31	49	95.37
55	31	50	67.77
56	32	139	34.5
57	32	44	202.22
58	33	34	51.94
59	34	35	55.89
60	35	36	66.81
61	36	37	35.15
62	36	40	303.78
63	37	38	53.09
64	37	41	309.82
65	38	39	251.3
66	38	139	21.48
67	39	43	49.7
68	39	42	68.79
69	40	41	40.05
70	40	117	247
71	41	42	52.77
72	42	61	108.37
73	43	47	58.63
74	44	45	58.55
75	45	47	48.94
76	46	62	115.32
77	46	59	122.43
78	47	61	62.47
79	48	49	52.47
80	48	58	122.59

ARCO	INICIO	FIN	DIST. (m.)
81	49	50	67.95
82	50	51	57.07
83	51	52	90.05
84	51	58	51.11
85	52	53	56.85
86	53	54	56.01
87	54	55	24.71
88	55	140	27.68
89	55	59	115.4
90	56	70	84.85
91	56	140	56.52
92	57	140	26.03
93	57	60	148,58
94	57	69	68.97
95	58	59	56.3
96	59	60	53.48
97	60	141	59.31
98	61	62	53.86
99	62	63	52.62
100	63	64	61.08
101	63	141	70.11
102	64	65	53.62
103	64	111	162.02
104	65	66	61.16
105	65	110	156.66
106	66	67	66.51
107	66	75	153.96
108	66	109	100.34
109	67	141	43.83
110	67	68	105.11
111	68	69	32.9
112	68	75	93.74
113	69	74	93.37
114	69	70	58.68
115	70	72	142.65
116	71	72	23.05
117	71	81	130.63
118	72	73	31.23
119	73	74	54.48
120	73	142	81.3
121	74	75	43.04
122	75	76	50.45

ARCO	INICIO	FIN	DIST. (m.)
123	76	77	54.1
124	76	79	109.08
125	77	78	43.9
126	77	107	127.1
127	77	109	119.67
128	78	79	47.81
129	78	83	60.15
130	79	142	42.06
131	80	81	56.1
132	80	83	122.94
133	80	142	42.23
134	82	88	52.36
135	82	84	112.03
136	83	84	60.92
137	84	85	190
138	84	107	55.91
139	85	86	49.64
140	85	105	62.32
141	86	102	89.17
142	86	87	194.05
143	87	88	40.75
144	87	101	183.76
145	88	89	50.81
146	88	91	82.79
147	89	90	81.16
148	90	91	51.48
149	91	92	49.17
150	92	93	54.86
151	93	101	51.39
152	94	95	36.11
153	94	100	214
154	95	96	51.48
155	95	99	170.2
156	96	97	52.73
157	97	98	49.37
158	97	99	108.61
159	98	103	181.32
160	99	100	48.81
161	100	102	67.55
162	101	102	70.7
163	102	103	52.98
164	103	104	188.85

ARCO	INICIO	FIN	DIST. (m.)
165	104	105	50.91
166	104	124	108.73
167	105	106	135.08
168	105	135	60.62
169	106	107	52.32
170	106	134	63.23
171	107	108	126.37
172	108	132	56.46
173	108	133	131.34
174	108	109	117.6
175	110	111	49.14
176	110	133	51.74
177	111	112	57.25
178	112	113	50.51
179	113	114	49.9
180	114	115	131.27
181	115	116	43.11
182	116	117	42.97
183	117	118	198.09
184	118	119	60.52
185	118	120	71.68
186	119	123	143.02
187	120	121	54.34
188	120	143	234.74
189	121	143	133.82
190	121	122	54.37
191	122	123	53.04
192	122	128	50.19
193	123	124	231.28
194	124	125	52.74
195	125	126	55.31
196	125	132	132.79
197	126	127	61.41
198	126	131	123.39
199	127	128	53.58
200	127	130	119.78
201	128	129	128.29
202	129	143	101.52
203	129	130	54.37
204	130	131	57.74
205	131	132	58.53
206	132	134	62.83

ARCO	INICIO	FIN	DIST. (m.)
207	134	135	130.42
208	136	137	53.98

Mapa 10

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	67.93
2	1	3	263.75
3	2	4	131.88
4	4	5	55.54
5	5	6	57.29
6	3	7	74.26
7	6	7	51.62
8	4	8	43.65
9	8	9	42.9
10	9	10	152.75
11	10	11	60.62
12	11	12	211.41
13	12	13	48.17
14	5	14	281.24
15	11	14	55.4
16	6	15	268.57
17	14	15	49.13
18	7	16	255.12
19	15	16	61.4
20	13	17	371.31
21	16	17	54.35
22	3	18	286.43
23	18	19	213.35
24	19	20	69
25	20	21	53.74
26	18	22	63.57
27	21	23	112.41
28	22	23	54.5
29	21	24	52.51
30	20	25	376.69
31	16	26	61.34
32	25	27	47.03
33	26	27	91.13
34	17	28	71.59
35	27	29	46.03
36	28	29	86.84
37	29	30	73.15
38	30	31	48.17

ARCO	INICIO	FIN	DIST. (m.)
39	24	32	104.63
40	27	32	171.39
41	31	33	48.17
42	32	33	56.47
43	28	34	55.4
44	34	35	51.25
45	35	36	61.69
46	17	37	187.32
47	36	37	57.71
48	37	38	51.25
49	38	39	201.73
50	39	40	60.62
51	39	41	43.9
52	38	42	40.81
53	41	42	198.62
54	42	43	33.46
55	43	44	36.58
56	44	45	35.67
57	41	46	39.17
58	43	46	209
59	44	47	206.91
60	46	47	37.68
61	46	48	30.73
62	47	48	32.55
63	45	49	192.31
64	47	49	34.74
65	48	49	38.54
66	40	50	134.84
67	48	50	62.92
68	30	51	59.57
69	34	51	53.39
70	35	52	155.88
71	51	52	54.35
72	36	53	150.5
73	52	53	57.71
74	54	53	54.7
75	45	54	44.95
76	53	54	48.12
77	54	55	108.73
78	49	56	32.46
79	55	56	57.48
80	48	57	34.74

ARCO	INICIO	FIN	DIST. (m.)
81	49	57	71.09
82	56	57	13.63
83	57	58	77.25
84	58	59	40.81
85	56	60	72.37
86	59	60	49.95
87	55	61	86.71
88	60	61	52.72
89	54	62	122.27
90	61	62	126.48
91	53	63	64.92
92	33	64	174.63
93	63	64	59.11
94	64	65	74.26
95	65	66	14.78
96	66	67	62.7
97	67	68	50.55
98	33	69	56.47
99	68	70	50.33
100	69	70	44.09
101	69	71	40.03
102	23	72	44.89
103	72	73	152.8
104	73	74	56.47
105	71	75	48.79
106	74	75	46.03
107	72	76	29.92
108	76	77	59.85
109	22	78	200.48
110	78	79	172.35
111	79	80	43.09
112	77	81	50.56
113	78	81	46.73
114	81	82	57.83
115	82	83	188.84
116	79	84	39.54
117	83	84	79.58
118	73	85	36.5
119	76	85	159.72
120	77	86	171.58
121	85	86	39.93
122	81	87	188.84

ARCO	INICIO	FIN	DIST. (m.)
123	86	87	102.5
124	82	88	186.22
125	87	88	48.12
126	88	89	50.33
127	83	90	110.8
128	89	90	57.81
129	84	91	129
130	90	91	118.23
131	89	92	125.83
132	91	92	56.47
133	80	93	332.14
134	92	93	50.55
135	92	94	56.47
136	74	95	186.06
137	88	95	54.7
138	75	96	192.69
139	95	96	52.25
140	94	97	50.33
141	96	97	198.55
142	96	98	60.75
143	70	99	163.23
144	98	99	59.8
145	97	100	53.28
146	98	100	171.39
147	99	101	149.33
148	100	101	70.72
149	68	102	159.72
150	99	102	81.75
151	101	103	102.07
152	102	103	112.36
153	103	104	112.94
154	67	105	167.53
155	102	105	65.09
156	66	106	90.26
157	106	107	50.17
158	105	108	59.13
159	107	108	39.27
160	104	109	7026
161	108	109	125.83
162	109	110	57.81
163	110	111	29.56
164	109	112	66.01

ARCO	INICIO	FIN	DIST. (m.)
165	112	113	31.35
166	107	114	52.9
167	113	114	98.25
168	106	115	43.08
169	115	116	85.5
170	62	117	49.57
171	65	117	74.66
172	66	117	75.5
173	116	117	56.27
174	115	118	69.47
175	116	118	61.47
176	116	119	60.75
177	118	120	66.09
178	119	120	109.1
179	114	121	100.01
180	120	121	46.97
181	113	122	105.44
182	121	122	38.54
183	112	123	131.93
184	122	123	33.05
185	61	124	51.46
186	117	124	128.33
187	124	125	50.33
188	119	126	37.39
189	125	126	53.28
190	120	127	39.93
191	126	127	115.61
192	127	128	34.02
193	123	129	37.39
194	128	129	79.99
195	93	130	234.17
196	101	130	58.56
197	110	130	199.81
198	130	131	79.45
199	131	132	167.52
200	132	133	69
201	133	134	54.5
202	134	135	44.33
203	135	136	48.79
204	133	137	152.58
205	136	138	44.33
206	137	138	59.11

ARCO	INICIO	FIN	DIST. (m.)
207	138	139	53.28
208	139	140	173.92
209	136	141	222.71
210	140	141	33.04
211	135	142	178.57
212	141	142	51.46
213	134	143	179.12
214	142	143	56.13
215	143	144	35.13
216	132	145	263.7
217	144	145	57.28
218	111	146	61.47
219	145	146	154.89
220	146	147	57.81
221	144	148	65.8
222	147	148	211.72
223	140	149	60.75
224	149	150	54.2
225	142	151	153.03
226	148	152	203.52
227	151	152	57.81
228	147	153	66.46
229	152	153	268.22
230	150	154	58.46
231	151	154	39.72
232	154	155	45.62
233	151	156	36.27
234	155	156	110.218
235	156	157	60.31
236	152	158	64.43
237	156	160	31.56
238	155	161	26.12
239	160	161	67.43
240	161	162	21.16
241	162	163	26.12
242	163	164	25.81
243	164	165	43.65
244	165	166	47.66
245	166	167	23.37
246	167	168	16.85
247	168	169	115.66
248	167	170	109.92

ARCO	INICIO	FIN	DIST. (m.)
249	168	170	98.14
250	169	170	73.33
251	169	171	56.08
252	166	172	93.93
253	170	172	28.04
254	165	173	115.09
255	164	174	124.19
256	173	174	24.56
257	163	175	60.66
258	174	175	29.58
259	158	176	42.12
260	159	176	52.25
261	162	176	117.67
262	175	176	49.12
263	158	177	108.12
264	177	178	56.27
265	111	179	174.61
266	129	179	52.25
267	153	179	132.07
268	178	179	59.11
269	171	180	127.92
270	177	180	189.16
271	178	181	141.17
272	180	181	49.97
273	179	182	124.2
274	181	182	64.16
275	169	183	60.75
276	182	183	78.34
277	183	184	75.42
278	184	185	65.8
279	185	186	76.54
280	129	187	82.81
281	185	187	43.09
282	128	188	81.62
283	186	188	46.56
284	187	188	76.08
285	127	189	85.7
286	188	189	37.39
287	125	190	72.55
288	127	190	101.19
289	189	190	60.93
290	190	191	33.02

ARCO	INICIO	FIN	DIST. (m.)
291	125	192	29.56
292	191	192	85.28
293	124	193	37.68
294	192	193	74.92
295	193	194	74.92
296	58	195	56.52
297	194	195	44.34
298	50	196	42.64
299	195	196	65.59
300	191	197	46.73
301	195	198	99.14
302	197	198	49.25
303	189	199	125.83
304	198	199	65.43
305	196	200	102.07
306	198	200	85.92
307	199	201	47.66
308	200	201	71.18
309	184	202	73.9
310	186	202	77.36
311	201	202	37.68
312	19	203	214.22
313	19	203	253.97

Mapa 11

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	163.31
2	1	4	52.74
3	2	3	61.40
4	2	5	62.32
5	3	6	76.16
6	4	5	142.64
7	4	9	50.05
8	5	8	56.19
9	6	7	172.41
10	7	10	57.67
12	7	11	181.82
11	8	10	30.78
13	8	9	128.67
14	9	13	182.44
15	10	12	130.89
19	10	12	161.74
16	11	12	52.90
17	11	20	166.70
18	12	13	126.23
21	12	15	51.52
20	13	14	44.78
22	14	15	115.21
23	14	16	58.99
24	15	17	48.26
25	16	17	116.81
26	16	18	52.78
27	17	19	52.78
28	18	19	114.50
29	18	21	55.52
30	19	20	60.80
31	20	22	49.29
32	21	22	174.18
33	21	23	50.58
34	22	25	50.45
35	23	24	107.24
36	23	26	139.38
37	24	25	62.62
38	24	26	239.38

ARCO	INICIO	FIN	DIST. (m.)
39	25	28	184.63
40	26	27	66.85
41	27	33	122.31
42	27	28	194.48
43	28	43	95.67
44	28	44	63.36
45	29	48	156.28
46	29	30	50.25
47	29	51	75.98
48	30	31	25.62
49	30	52	60.85
50	31	32	69.09
51	31	53	80.75
52	32	33	39.53
53	32	54	90.33
54	33	34	31.74
55	34	35	256.10
56	35	48	105.43
57	36	55	96.26
58	36	37	35.99
59	37	56	100.81
60	38	39	34.38
61	38	37	39.27
62	39	40	36.27
63	39	58	105.56
64	40	41	37.55
65	40	43	36.69
66	41	42	33.90
67	41	45	70.34
68	42	46	64.64
69	42	213	38.84
70	42	43	40.91
71	43	44	111.27
72	213	47	66.76
73	213	44	55.52
74	44	69	130.21
75	45	46	34.06
76	45	66	59.87
77	45	58	37.46
78	46	67	61.03
79	46	47	37.55
80	47	68	58.60

ARCO	INICIO	FIN	DIST. (m.)
81	48	49	71.42
82	49	70	116.75
83	49	50	63.56
84	50	51	76.55
85	50	70	190.88
86	51	71	249.60
87	52	59	66.64
88	52	53	25.73
89	53	54	36.22
90	53	60	64.52
91	54	55	31.63
92	54	61	49.77
93	55	62	59.87
94	55	56	33.04
95	56	57	41.04
96	56	63	59.87
97	57	58	32.73
98	57	64	60.85
99	58	65	57.44
100	59	60	32.80
101	59	76	155.01
102	60	77	56.08
103	60	61	34.06
104	61	62	38.84
105	61	78	60.31
106	62	63	35.22
107	62	79	62.46
108	63	64	38.63
109	63	80	62.20
110	64	65	39.88
111	64	81	61.47
112	65	66	37.39
113	66	67	39.88
114	66	83	61.47
115	67	68	37.68
116	67	84	56.38
117	68	69	52.78
118	68	85	55.22
119	69	86	61.03
120	70	74	118.00
121	71	75	28.77
122	71	72	20.52

ARCO	INICIO	FIN	DIST. (m.)
123	72	73	49.16
124	72	105	55.34
125	73	74	67.67
126	73	108	122.10
127	74	109	117.68
128	75	96	33.55
129	75	214	77.61
130	76	77	64.47
131	76	87	36.29
132	77	78	37.97
133	78	87	62.10
134	78	79	36.52
135	79	88	65.93
136	79	80	37.68
137	80	89	67.89
138	80	81	36.88
139	81	82	42.16
140	81	90	66.90
141	82	83	31.51
142	82	91	64.43
143	83	92	64.52
144	83	84	34.13
145	84	93	65.86
146	84	85	36.34
147	85	94	64.58
148	85	86	51.57
149	86	95	66.33
150	87	97	59.01
151	87	88	35.09
152	88	98	57.88
153	88	89	36.97
154	89	116	110.59
155	89	90	38.08
156	90	99	64.00
157	90	91	42.46
158	91	92	35.17
159	91	100	63.84
160	92	93	37.46
161	92	101	60.35
162	93	94	34.01
163	93	102	61.44
164	94	95	51.52

ARCO	INICIO	FIN	DIST. (m.)
165	94	103	53.26
166	95	104	63.48
167	96	111	50.26
168	96	97	31.74
169	97	112	52.69
170	97	98	37.40
171	98	114	48.13
172	99	100	40.00
173	99	118	48.03
174	100	101	32.73
175	100	122	50.58
176	101	102	42.46
177	101	128	51.62
178	102	103	37.46
179	102	129	50.45
180	103	104	58.46
181	103	130	50.45
182	104	131	46.97
183	105	106	41.70
184	105	214	29.30
185	214	215	29.58
186	215	111	28.14
187	215	216	37.55
188	106	107	24.65
189	106	110	50.29
190	107	108	73.64
191	107	133	79.99
192	108	109	71.31
193	109	132	75.68
194	110	113	37.40
195	110	135	110.22
196	216	113	42.32
197	216	217	36.29
198	113	137	116.04
199	111	112	28.26
200	112	114	38.84
201	114	217	29.30
202	114	116	38.63
203	217	115	37.84
204	115	117	30.58
205	116	117	57.35
206	116	118	45.70

ARCO	INICIO	FIN	DIST. (m.)
207	117	139	124.51
208	117	119	47.10
209	118	122	44.53
210	119	120	33.42
211	119	123	51.95
212	120	121	41.97
213	120	124	55.80
214	121	140	49.93
215	121	125	34.01
216	121	140	49.35
217	122	123	55.02
218	122	128	26.60
223	122	123	55.23
219	123	124	42.26
220	124	125	38.71
222	124	219	150.44
221	125	141	52.23
224	125	126	78.16
225	126	218	15.48
226	126	143	59.92
227	218	127	37.50
228	127	144	77.41
229	127	219	49.06
230	128	129	35.84
231	129	130	33.98
232	130	131	52.78
233	131	219	115.61
234	132	133	170.00
235	132	146	66.59
236	133	134	36.81
237	133	148	55.87
238	134	149	68.77
239	134	135	15.82
240	135	136	12.28
241	136	149	93.71
242	136	137	22.90
243	137	138	39.18
244	138	139	28.06
245	139	140	46.74
246	140	153	110.27
247	140	141	37.97
248	141	142	24.65

ARCO	INICIO	FIN	DIST. (m.)
249	142	154	77.91
250	142	143	72.43
251	143	144	20.45
252	144	155	68.55
253	144	145	52.04
254	145	158	100.91
255	219	145	83.64
256	146	186	296.77
257	146	147	66.64
258	147	148	119.82
259	147	183	84.52
260	148	184	107.48
261	149	150	90.18
262	150	151	33.35
263	150	172	35.13
264	151	171	105.56
265	151	152	37.39
266	152	153	38.66
267	152	170	128.52
268	153	168	31.31
269	154	156	50.99
270	154	155	91.72
271	155	221	34.64
272	221	157	18.77
273	221	158	41.58
274	156	168	59.81
275	220	156	32.34
276	220	159	45.66
277	220	157	55.16
278	157	161	39.29
279	158	162	36.97
280	159	166	72.83
281	159	169	77.48
282	159	160	38.77
283	160	164	120.21
284	160	161	17.10
285	161	162	69.02
286	162	163	119.86
287	163	164	78.54
288	163	203	120.85
289	164	165	39.83
290	164	182	42.08

ARCO	INICIO	FIN	DIST. (m.)
291	165	166	38.13
292	165	179	40.51
293	166	167	82.08
294	167	170	38.08
295	167	178	37.43
296	167	169	63.94
297	168	169	37.75
298	170	175	36.02
299	171	173	35.71
300	171	175	30.00
301	172	173	69.35
302	172	174	100.81
303	173	174	38.59
304	173	195	140.05
305	174	190	40.89
306	175	176	31.68
307	176	177	35.63
308	176	196	78.59
309	177	178	36.81
310	177	197	75.28
311	178	179	46.86
312	178	199	106.74
313	179	180	41.09
314	180	198	65.22
315	180	181	39.21
316	181	201	66.75
317	181	182	32.76
318	182	202	77.54
319	183	184	143.61
320	183	185	53.23
321	184	190	58.83
322	185	190	162912.00
323	185	187	47.26
324	186	189	70.34
325	186	207	543.70
326	187	191	185.22
327	187	188	52.05
328	188	192	203.60
329	188	189	60.31
330	189	194	217.81
331	189	211	156.71
332	190	191	53.62

ARCO	INICIO	FIN	DIST. (m.)
333	191	192	59.57
334	192	193	34.96
335	193	194	26.31
336	193	195	62.20
337	194	210	117.93
338	195	196	37.10
339	196	197	36.45
340	198	199	39.36
341	198	201	42.83
342	198	200	107.11
343	199	200	65.93
344	200	205	68.60
345	201	202	31.74
346	202	203	87.78
347	203	204	117.36
348	204	205	203.73
349	204	206	406.22
350	205	206	189.91
351	206	207	147.07
352	207	208	59.69
353	208	212	209.42
354	208	209	57.52
355	209	212	179.00
356	209	210	58.91
357	210	211	211.65
358	211	212	61.81

Mapa 12

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	182.722
2	1	11	125.109
3	2	3	194.499
4	2	10	79.5214
5	3	4	166.721
6	3	8	80.4763
7	4	5	83.0878
8	5	6	52.2472
9	5	21	48.0702
10	6	7	54.3598
11	6	20	175.936
12	7	8	51.7354
13	7	19	149.431
14	8	9	176.075
15	8	16	49.635
16	9	10	53.2952
17	9	14	51.2054
18	10	13	59.766
19	11	12	91.8732
20	11	41	74.9991
21	12	13	69.9126
22	12	38	60.8525
23	13	32	50.5752
24	13	14	74.2211
25	14	15	55.9927
26	14	31	52.7804
27	15	26	52.7803
28	15	16	124.366
29	16	17	50.5076
30	17	18	41.9721
31	17	26	118.228
32	18	28	61.6541
33	18	19	52.793
34	19	20	44.64
35	20	25	47.9565
36	20	24	53.0379
37	21	22	30.8435
38	22	23	46.9207

ARCO	INICIO	FIN	DIST. (m.)
39	23	24	74.0411
40	25	29	146.182
41	26	27	44.4871
42	27	30	55.9072
43	27	28	54.4603
44	28	29	49.1236
45	29	30	52.3126
46	30	34	40.2848
47	30	35	44.4871
48	31	32	89.8675
49	31	33	49.8733
50	32	38	75.5473
51	32	44	54.5482
52	33	44	110.247
53	33	34	48.9149
54	34	45	135.386
55	35	36	53.2821
56	35	62	121.704
57	36	37	54.9221
58	36	61	91.4928
59	37	46	67.9219
60	37	48	69.0182
61	38	39	49.2905
62	38	40	50.9565
63	39	40	55.2021
64	39	43	52.4389
65	39	44	78.7701
66	40	41	64.9937
67	41	42	79.3268
68	42	43	90.4433
69	42	50	92.1265
70	43	45	80.8765
71	44	45	50.7074
72	45	46	51.9275
73	46	47	45.0674
74	47	48	62.1299
75	47	49	97.3335
76	48	54	47.6302
77	49	50	92.274
78	49	52	49.1735
79	50	51	48.5407
80	51	52	91.8959

ARCO	INICIO	FIN	DIST. (m.)
81	51	68	147.987
82	52	53	28.0634
83	53	54	129.512
84	53	55	52.755
85	54	60	52.4187
86	54	56	52.625
87	55	56	127.223
88	55	57	135.757
89	56	58	52.4407
90	57	58	42.4722
91	57	64	109.99
92	58	64	70.6426
93	58	59	50.3391
94	59	60	105.529
95	59	164	35.8345
96	60	61	47.0563
97	60	163	63.521
98	61	62	40.4844
99	62	63	43.2335
100	63	29	191.564
101	63	163	50.3502
102	64	65	52.8482
103	65	67	60.2235
104	66	67	50.8976
105	67	72	65.1104
106	68	69	175.364
107	68	70	228.412
108	68	80	378.163
109	69	70	51.8807
110	69	79	131.844
111	70	71	38.8598
112	70	78	112.454
113	71	75	62.0956
114	71	72	154.003
115	72	74	52.2782
116	72	73	84.7792
117	73	86	133.501
118	73	95	167.62
119	74	85	51.112
120	74	77	313.383
121	75	76	59.6859
122	76	77	25.9673

ARCO	INICIO	FIN	DIST. (m.)
123	77	78	20.7434
124	78	79	28.1908
125	79	81	139.093
126	80	81	106.252
127	80	104	135.443
128	81	82	27.4798
129	82	106	130.634
130	82	83	47.2545
131	83	107	131.017
132	83	84	85.4132
133	84	102	49.7381
134	84	85	162.39
135	85	97	58.3587
136	86	95	108.501
137	86	87	50.1441
138	87	88	52.7215
139	87	94	54.853
140	88	89	97.5717
141	89	91	52.4585
142	89	90	64.6308
143	90	118	122.929
144	91	92	44.8569
145	91	117	69.7253
146	92	116	148.572
147	92	93	57.2484
148	93	94	46.1912
149	93	114	109.121
150	94	113	130.087
151	95	96	50.5003
152	96	97	90.7846
153	96	113	48.4696
154	97	98	51.7123
155	98	99	55.3488
156	98	102	107.711
157	99	100	52.7316
158	99	125	178.828
159	100	101	49.9946
160	101	102	54.6791
161	101	112	103.53
162	102	103	51.297
163	103	109	111.181
164	103	111	162.519

ARCO	INICIO	FIN	DIST. (m.)
165	104	105	96.9669
166	104	150	138.57
167	105	106	22.9682
168	105	151	138.935
169	106	107	48.8719
170	107	108	30.5771
171	108	110	50.575
172	108	153	108.522
173	109	110	42.7425
174	109	111	114.093
175	110	146	98.1222
176	111	146	49.6664
177	111	112	57.3691
178	112	128	130.651
179	113	115	50.6352
180	114	115	45.5553
181	114	116	80.556
182	115	124	34.6961
183	116	122	50.1848
184	117	118	62.9621
185	117	122	105.644
186	118	119	134.655
187	119	122	81.6476
188	119	120	48.5922
189	120	121	99.5991
190	120	138	194.273
191	121	164	48.413
192	121	123	53.4765
193	123	124	56.3262
194	123	127	106.251
195	124	125	53.4766
196	125	126	49.8131
197	126	100	177.438
198	126	127	51.6724
199	127	128	54.6787
200	128	129	61.1849
201	129	130	57.4273
202	129	131	52.247
203	130	145	139.065
204	130	132	54.8532
205	131	133	125.514
206	131	164	139.231

ARCO	INICIO	FIN	DIST. (m.)
207	132	135	53.6964
208	132	134	123.508
209	133	134	56.1805
210	133	164	157.13
211	134	138	52.2467
212	135	136	86.5256
213	135	137	122.258
214	136	145	56.6706
215	136	140	123.02
216	137	140	83.9371
217	137	139	53.8737
218	138	139	55.5144
219	139	142	138.963
220	140	141	55.6036
221	141	142	53.7819
222	142	144	282.257
223	143	144	77.7434
224	143	145	52.822
225	143	162	133.502
226	144	161	134.079
227	145	163	135.235
228	146	147	52.7219
229	147	149	88.0586
230	147	156	60.4044
231	149	110	51.1552
232	149	154	58.1246
233	150	151	96.3755
234	150	157	128.461
235	151	152	28.6768
236	152	159	166.489
237	152	153	47.546
238	153	154	51.035
239	153	155	55.2843
240	154	156	73.1114
241	155	148	108.138
242	156	148	56.0108
243	157	158	83.1184
244	157	159	128.006
245	158	160	119.822
246	159	160	98.4695
247	160	161	82.103
248	161	162	97.2192

ARCO	INICIO	FIN	DIST. (m.)
249	163	66	148.631
250	164	65	50.1361
251	164	66	63.9664



Mapa 13

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	73.89
2	1	5	156.26
3	1	6	259.8
4	2	3	55.39
5	2	12	219.1
6	3	4	88.19
7	3	10	133.68
8	4	5	53.23
9	4	9	75.89
10	5	7	181.64
11	6	7	119.3
12	6	118	168.08
13	7	8	25.81
14	7	119	81.99
15	8	130	65.8
16	8	129	178.81
17	9	10	114.59
18	9	130	54.91
19	10	11	48.82
20	11	12	52.83
21	11	20	81.45
22	11	130	134.33
23	12	13	49.3
24	12	19	108.1
25	13	14	82.26
26	14	15	52.47
27	14	17	196.12
28	15	16	194.37
29	16	17	48.8
30	16	30	46.76
31	17	18	37.84
32	18	19	164.8
33	18	23	67.09
34	18	29	54.55
35	19	20	55.38
36	20	21	41.87
37	21	22	60.14
38	21	26	104.49

ARCO	INICIO	FIN	DIST. (m.)
39	22	23	50.64
40	22	25	92.88
41	23	24	83.56
42	23	27	110.35
43	24	25	53.75
44	24	27	67.85
45	24	129	65.42
46	25	26	54.96
47	26	130	87.69
48	27	28	79.48
49	28	29	160.83
50	28	74	88.79
51	29	30	89.71
52	30	31	64.64
53	31	32	249.32
54	32	33	57.67
55	32	45	285.2
56	33	34	51.88
57	33	74	146.47
58	34	35	50.72
59	34	76	191.5
60	35	36	56.51
61	35	44	180.26
62	36	37	38.99
63	36	39	81.63
64	37	38	83.94
65	37	43	95.32
66	38	39	34.38
67	38	42	114.67
68	39	76	47.44
69	40	41	53.4
70	40	75	79.99
71	40	131	125.92
72	41	72	185.73
73	41	48	184
74	42	43	72.21
75	42	131	51.3
76	43	44	53.79
77	44	45	57.25
78	44	46	162.18
79	45	47	278.6
80	46	48	91.87

ARCO	INICIO	FIN	DIST. (m.)
81	46	131	55.11
82	47	48	55.9
83	47	51	159.44
84	48	49	63.78
85	49	50	53.12
86	49	71	272.25
87	50	66	175.89
88	50	132	43.52
89	51	52	55.23
90	51	132	59.48
91	52	53	265.05
92	52	64	213.36
93	53	54	55.52
94	54	55	47.92
95	54	57	52.63
96	55	56	50.32
97	55	59	213.64
98	56	60	221.64
99	56	63	185.39
100	57	58	150.4
101	58	59	55.06
102	58	133	50.03
103	59	60	48.61
104	60	61	48.68
105	61	62	49.39
106	61	69	118.16
107	61	98	48.28
108	62	63	49.74
109	62	68	117.46
110	63	64	113.45
111	64	65	53.24
112	64	68	50.24
113	65	66	65.14
114	65	132	165.23
115	66	67	49.74
116	67	68	126.75
117	67	70	48.25
118	68	69	50.9
119	69	70	133.03
120	69	95	45.58
121	70	71	51.21
122	70	77	54.43

ARCO	INICIO	FIN	DIST. (m.)
123	71	72	55.7
124	71	79	157.55
125	72	73	47.67
126	73	74	63.29
127	73	134	132.14
128	74	75	52.2
129	75	76	55.03
130	77	78	92.29
131	77	94	71.35
132	78	79	46.79
133	78	92	70.18
134	79	134	60.82
135	80	81	51.15
136	80	87	121.28
137	80	128	66.02
138	81	82	51.47
139	81	135	207.05
140	82	83	49.08
141	82	119	194.02
142	83	84	52.62
143	83	121	196.55
144	84	85	54.4
145	84	122	193.66
146	85	135	52.04
147	85	136	102.33
148	86	88	57.87
149	86	110	65.49
150	86	135	47.32
151	87	88	83.63
152	87	92	49.24
153	88	89	98.93
154	89	90	49.1
155	89	102	133.4
156	89	107	88.84
157	90	91	77.19
158	90	99	46.79
159	90	101	129.9
160	91	92	106.37
161	91	97	42.21
162	92	93	46.62
163	93	94	41.49
164	93	97	105.92

ARCO	INICIO	FIN	DIST. (m.)
165	94	95	69.67
166	95	96	38.04
167	96	97	42.71
168	96	98	77.73
169	98	99	43.85
170	98	133	136.39
171	99	100	132.79
172	100	101	43.91
173	100	133	46.91
174	101	102	50.32
175	102	103	54.58
176	103	104	51
177	103	107	144.64
178	104	105	63.5
179	105	106	54.23
180	106	108	45.75
181	107	108	52.04
182	108	109	48.33
183	109	110	48.41
184	109	112	75.86
185	110	111	83.08
186	111	112	55.11
187	111	136	52.69
188	112	113	45.13
189	113	114	33.45
190	113	127	107.19
191	114	115	55.94
192	114	125	124.04
193	115	116	72.63
194	115	124	135.84
195	116	117	196
196	117	118	110.22
197	117	123	72.25
198	119	120	18.11
199	120	121	34.51
200	120	123	217.06
201	121	122	59.63
202	122	123	111.29
203	122	126	54.2
204	123	124	57.1
205	124	125	53.05
206	126	127	40.38

ARCO	INICIO	FIN	DIST. (m.)
207	128	129	101.75
208	128	134	51.43

Mapa 14

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	68.83
2	1	5	239.23
3	2	3	94.66
4	2	6	211.71
5	3	4	78.9
6	4	7	56.67
7	4	38	154.78
8	5	6	60.14
9	5	10	170.32
10	6	11	165.56
11	6	7	51.1
12	7	8	55.11
13	7	37	179.58
14	8	9	51.73
15	8	36	197.34
16	9	12	55.9
17	9	34	99.68
18	10	11	65.93
19	10	39	292.27
20	11	12	56.51
21	12	39	116.39
22	12	46	106.27
23	12	13	119.46
24	13	47	62.33
25	13	14	56.67
26	14	15	111.69
27	14	48	61.86
28	15	16	109.6
29	16	52	57.43
30	16	17	274.1
31	17	62	54.12
32	18	19	64.9
33	18	28	206.52
34	20	28	180.17
35	22	23	53.69
36	22	26	50.45
37	22	62	428.89
38	23	24	105.34

ARCO	INICIO	FIN	DIST. (m.)
39	24	25	54.27
40	24	38	198.85
41	25	26	55.8
42	25	31	58.42
43	25	37	177.19
44	26	27	196.96
45	27	28	53.78
46	27	29	54.19
47	29	33	55.03
48	30	31	53.2
49	30	32	55.02
50	31	36	157.78
51	32	35	76.5
52	33	34	199.33
53	34	35	139.45
54	35	36	56.17
55	36	37	54
56	37	38	53.44
57	39	40	179.2
58	40	41	173.59
59	40	45	61.56
60	41	42	57.53
61	42	43	51.2
62	42	55	50.29
63	42	57	220.84
64	43	54	109.36
65	43	44	51.32
66	44	48	109.84
67	44	45	48.8
68	45	46	153.02
69	45	47	148
70	46	47	90.71
71	48	49	53.4
72	49	50	53.04
73	49	54	130.55
74	50	51	26.12
75	50	53	104.67
76	51	52	75.5
77	53	54	51.72
78	53	58	92.43
79	55	56	180.48
80	56	57	55.42

ARCO	INICIO	FIN	DIST. (m.)
81	57	58	51.72
82	60	61	56.14
83	61	62	67.09
84	62	63	73.37
85	63	64	58.94
86	64	65	97.08
87	64	86	29.3
88	65	66	52.62
89	65	87	47.25
90	66	67	50.25
91	66	79	161.28
92	67	68	52.79
93	67	76	175.79
94	68	75	182.73
95	68	69	53.51
96	69	73	231.06
97	69	70	52.71
98	70	72	210
99	71	72	169.06
100	71	68	321.64
101	72	73	64.93
102	73	74	90.39
103	74	75	134.25
104	74	78	83.94
105	74	94	328.75
106	75	76	49
107	76	77	50.32
108	76	79	50.9
109	77	81	146.88
110	77	78	49.95
111	78	82	145.58
112	78	94	389.92
113	79	80	49.74
114	80	88	52.89
115	80	84	99.13
116	81	82	57.83
117	81	83	54.06
118	82	93	242.39
119	83	84	56.67
120	83	92	298.71
121	84	89	58.4
122	84	85	50.57

ARCO	INICIO	FIN	DIST. (m.)
123	85	86	51.15
124	85	88	93.18
125	86	87	96.73
126	87	88	49.07
127	89	90	334.58
128	90	91	43.62
129	90	106	247.47
130	91	95	159.56
131	91	92	50.45
132	91	97	275.43
133	92	98	289.47
134	92	93	51.85
135	93	94	55.7
136	93	98	322.47
137	95	96	87.02
138	95	105	148.17
139	96	102	58.77
140	96	103	171.83
141	97	101	59.19
142	97	99	57
143	98	99	31.26
144	100	101	155.38
145	101	102	172.35
146	102	103	99.32
147	103	104	69.93
148	103	105	64.16
149	104	107	121.78
150	105	106	54.36
151	106	107	86.25

Mapa 15

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	46.38
2	1	5	116.75
3	1	10	54.55
4	2	3	113.9
5	2	4	83.28
6	3	4	93.72
7	3	89	56.51
8	4	5	50.44
9	5	6	52.71
10	6	7	247.83
11	7	23	195.95
12	7	88	14.78
13	8	9	55.14
14	8	16	43.46
15	8	17	70.16
16	8	88	52.51
17	9	10	198.59
18	9	89	53.32
19	10	11	46.38
20	11	12	221.49
21	12	13	217.15
22	12	44	180.46
23	13	14	51.24
24	13	30	64.62
25	13	35	176.65
26	14	15	50
27	14	28	210.36
28	15	16	114.7
29	15	19	53.28
30	17	18	67.36
31	17	22	117.97
32	18	19	56.27
33	18	21	90.06
34	19	20	62.7
35	20	21	49.51
36	20	26	49.95
37	21	22	28.9
38	22	23	46.79

ARCO	INICIO	FIN	DIST. (m.)
39	23	24	57.28
40	24	25	52.25
41	24	26	155.97
42	25	27	149.05
43	25	42	332.23
44	26	27	66.09
45	27	28	55
46	28	29	45.37
47	29	30	127.83
48	29	32	46.96
49	29	42	80.67
50	30	31	51.88
51	31	32	87.24
52	31	34	134.24
53	32	33	111.4
54	33	34	43.08
55	33	41	77.42
56	34	37	78.51
57	35	36	87.95
58	36	37	46.26
59	36	38	83.2
60	37	40	77.42
61	38	39	82.62
62	38	46	133.17
63	39	40	84.63
64	39	43	182.79
65	40	41	69.19
66	41	42	180.65
67	43	47	173.67
68	43	53	99.2
69	43	90	82.61
70	44	46	185.16
71	46	47	99.88
72	47	90	75.1
73	47	48	50.44
74	48	49	46.55
75	48	51	99.02
76	49	54	93.84
77	49	50	35.59
78	49	54	97.57
79	50	55	84.24
80	50	60	42.96

ARCO	INICIO	FIN	DIST. (m.)
81	51	52	77.98
82	51	54	44.33
83	52	53	49.95
84	52	57	106.79
85	53	58	92.14
86	54	55	47.31
87	55	59	48.17
88	56	57	44.94
89	56	63	71.06
90	57	64	127.55
91	58	65	118.31
92	59	63	98.27
93	59	62	50.33
94	60	61	49.51
95	61	62	93.11
96	61	68	43.65
97	62	67	83.68
98	63	66	53.94
99	64	65	45.37
100	64	66	44.94
101	65	72	49.95
102	66	67	44.94
103	66	71	44.94
104	67	70	45.37
105	68	69	162.39
106	69	70	52.24
107	69	73	52.24
108	70	71	49.95
109	70	74	52.71
110	71	72	104.1
111	71	75	50.44
112	72	77	54.19
113	73	78	59.58
114	73	74	49.95
115	74	80	130.61
116	74	75	59.15
117	75	76	52.24
118	75	83	123.3
119	76	77	52.24
120	76	84	124.62
121	77	85	132.91
122	78	79	78.82

ARCO	INICIO	FIN	DIST. (m.)
123	79	80	61.33
124	79	81	49.56
125	80	83	54.99
126	80	82	49.29
127	81	82	52.24
128	82	86	47.65
129	83	84	54.99
130	83	86	45.37
131	84	85	49.56
132	85	87	54.99
133	86	87	94.5

Mapa 16

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	80.6833
2	1	111	43.0189
3	1	9	217.45
4	2	3	82.434
5	2	7	112.406
6	3	113	58.52
7	4	5	38.43
8	4	113	83.43
9	5	6	84.79
10	5	115	38.69
11	6	7	122.90
12	6	113	42.12
13	6	114	35.36
14	7	8	79.03
15	7	11	79.03
16	8	112	40.95
17	8	10	74.40
18	9	10	40.99
19	9	19	42.06
20	9	112	94.91
21	10	11	78.28
22	11	12	121.13
23	11	17	39.83
24	12	13	97.66
25	12	16	42.16
26	12	114	39.79
27	13	14	40.43
28	13	115	42.86
29	14	15	51.67
30	14	26	160.32
31	15	16	52.01
32	15	25	38.59
33	16	17	120.51
34	16	24	41.51
35	17	18	69.65
36	17	22	45.56
37	18	19	51.58
38	18	21	42.90

ARCO	INICIO	FIN	DIST. (m.)
39	19	20	41.47
40	20	21	56.61
41	20	32	113.44
42	21	22	65.36
43	21	31	110.47
44	22	23	64.48
45	22	30	111.06
46	23	24	58.60
47	23	29	109.91
48	24	25	52.19
49	24	28	113.35
50	25	27	111.64
51	26	36	94.91
52	26	27	40.90
53	27	28	51.52
54	28	29	53.85
55	28	35	85.35
56	29	30	64.42
57	30	31	64.35
58	30	34	79.47
59	31	32	53.94
60	32	33	79.47
61	33	34	120.53
62	34	35	122.71
63	35	36	76.01
64	36	37	113.32
65	37	116	60.14
66	38	116	96.65
67	38	39	29.21
68	39	40	104.10
69	40	116	31.17
70	40	41	148.27
71	41	42	270.61
72	42	43	190.34
73	42	60	48.41
74	43	44	48.41
75	43	46	93.92
76	43	48	53.03
77	44	45	95.21
78	45	46	50.72
79	46	47	94.95
80	47	48	55.35

ARCO	INICIO	FIN	DIST. (m.)
81	47	51	100.45
82	48	49	51.10
83	48	60	184.04
84	49	50	40.74
85	49	59	189.01
86	50	51	52.05
87	50	55	51.57
88	50	58	181.73
89	51	52	154.05
90	52	53	57.35
91	52	67	91.93
92	53	54	53.98
93	53	67	60.60
94	54	55	42.57
95	54	65	52.01
96	55	56	122.92
97	56	57	71.37
98	56	61	50.23
99	57	58	53.03
100	57	73	172.66
101	58	59	50.65
102	59	60	51.88
103	61	62	50.63
104	61	65	165.21
105	62	63	54.36
106	62	72	65.78
107	63	64	51.38
108	63	71	65.01
109	64	66	55.51
110	64	70	67.82
111	65	66	51.47
112	66	69	65.20
113	67	68	112.37
114	68	69	48.90
115	68	110	64.73
116	69	70	56.67
117	70	106	60.98
118	71	72	53.03
119	71	105	62.53
120	72	73	68.18
121	73	74	65.20
122	74	75	61.65

ARCO	INICIO	FIN	DIST. (m.)
123	74	105	120.04
124	75	76	62.38
125	75	80	175.82
126	76	77	69.72
127	76	104	58.99
128	77	78	50.99
129	77	103	59.92
130	78	79	51.80
131	78	100	142.42
132	79	80	62.23
133	79	88	115.24
134	80	81	49.84
135	81	82	51.47
136	81	87	175.55
137	82	83	51.45
138	82	86	174.49
139	83	84	161.15
140	83	85	145.01
141	84	85	54.64
142	85	86	53.50
143	86	87	50.14
144	87	88	54.07
145	88	89	30.65
146	89	90	22.85
147	89	100	84.05
148	90	91	126.31
149	90	97	50.40
150	91	92	104.60
151	92	93	51.66
152	92	117	50.39
153	93	94	146.78
154	94	95	51.42
155	94	110	97.95
156	95	96	89.53
157	95	109	49.62
158	95	117	92.02
159	96	97	49.27
160	96	117	111.54
161	97	98	50.00
162	97	100	89.55
163	98	99	68.44
164	98	109	65.92

ARCO	INICIO	FIN	DIST. (m.)
165	99	101	16.43
166	99	108	71.01
167	101	100	54.12
168	101	102	37.12
169	102	103	49.74
170	102	106	130.72
171	103	104	71.28
172	104	105	58.54
173	105	106	52.54
174	106	107	53.29
175	107	108	57.17
176	107	110	73.27
177	111	112	92.4738
178	114	115	85.6709

Mapa 17

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	157.587
2	1	3	55.9216
3	2	5	154.789
4	3	4	39.799
5	3	6	245.661
6	4	7	208.991
7	5	6	52.874
8	5	14	161.698
9	6	7	54.6606
10	6	10	94.6374
11	7	8	51.4351
12	7	11	84.9602
13	8	9	54.2793
14	8	12	79.4054
15	9	13	68.9902
16	10	11	522.9878
17	10	15	58.8823
18	11	12	54.9391
19	12	13	60.7483
20	14	15	55.0134
21	14	16	142.661
22	15	18	162.938
23	16	17	55.2436
24	16	19	295.614
25	17	20	322.333
26	17	18	97.4153
27	18	21	225.703
28	19	20	44.5298
29	19	24	75.2152
30	20	23	43.998
31	21	22	91.2117
32	21	36	111.769
33	22	23	45.6945
34	23	33	80.7772
35	24	25	63.7097
36	24	26	298.397
37	25	32	123.289
38	25	27	278.697

ARCO	INICIO	FIN	DIST. (m.)
39	26	30	58.2719
40	26	27	59.7034
41	27	28	29.9995
42	27	68	57.7338
43	28	194	21.7374
44	28	84	198.622
45	194	70	117.246
46	194	29	41.2727
47	29	30	65.2031
48	29	71	106.228
49	30	31	159.093
50	31	81	147.006
51	31	75	84.0217
52	32	33	32.2104
53	33	34	56.1831
54	33	59	63.8835
55	33	57	140.495
56	34	35	80.3815
57	34	195	65.5132
58	195	54	80.64
59	195	55	43.9476
60	35	54	70.18
61	35	36	89.016
62	36	37	48.9256
63	36	50	74.802
64	37	38	48.2422
65	37	47	149.062
66	38	39	54.0039
67	38	45	124.464
68	39	40	159.02
69	39	42	87.6239
70	40	41	42.3696
71	40	43	94.3476
72	41	44	108.952
73	42	43	40.3711
74	42	45	44.4267
75	43	44	37.4558
76	43	46	45.5941
77	44	49	76.1582
78	45	46	41.5374
79	45	47	31.5634
80	46	48	29.8409

ARCO	INICIO	FIN	DIST. (m.)
81	47	52	38.5908
82	48	49	40.9541
83	48	53	40.3414
84	50	51	47.9856
85	50	54	88.2694
86	51	52	49.817
87	51	55	167.688
88	52	56	169.983
89	52	53	40.9916
90	53	58	228.511
91	55	56	45.5749
92	56	57	56.7661
93	57	58	46.8193
94	58	119	122.861
95	59	60	163.517
96	59	61	125.705
97	60	58	63.1504
98	60	121	213.737
99	60	64	52.1454
100	61	62	56.4615
101	61	68	171.415
102	62	63	109.532
103	62	65	115.753
104	63	64	56.1829
105	63	66	107.406
106	64	105	53.8164
107	64	67	111.238
108	65	66	66.8962
109	65	69	55.6487
110	66	67	53.74
111	67	83	49.9905
112	68	69	50.4693
113	69	83	104.499
114	70	71	34.32829
115	70	85	73.2729
116	71	72	35.529
117	71	86	72.2106
118	72	73	37.1714
119	72	87	74.61
120	73	74	36.7792
121	73	88	72.6085
122	74	76	34.9528

ARCO	INICIO	FIN	DIST. (m.)
123	74	89	73.4586
124	75	77	31.3999
125	75	76	36.6816
126	76	90	71.9404
127	76	78	34.9528
128	77	78	38.4125
129	77	79	34.2826
130	78	91	71.3666
131	78	80	37.2583
132	79	80	70.2972
133	79	81	67.0748
134	80	92	70.6301
135	80	82	42.8987
136	81	82	43.2511
137	82	93	71.2073
138	83	84	37.3866
139	84	95	37.593
140	83	84	35.0491
141	84	85	31.9923
142	85	86	33.0413
143	85	70	72.3074
144	86	87	34.1482
145	86	97	34.7032
146	87	99	33.1289
147	87	88	38.3282
148	88	100	68.7544
149	88	89	38.9068
150	89	90	33.6195
151	90	102	38.6075
152	90	91	34.3771
153	91	92	35.3555
154	92	93	44.5633
155	92	104	39.0816
156	93	118	108.612
157	94	105	162.352
158	94	109	47.5851
159	95	96	34.5851
160	95	97	62.8003
161	96	110	33.3395
162	96	98	57.9079
163	97	98	37.2586
164	97	99	33.6169

ARCO	INICIO	FIN	DIST. (m.)
165	98	111	35.4377
166	99	198	72.1648
167	100	198	31.4
168	100	101	38.7465
169	101	102	35.1936
170	101	114	70.2933
171	102	103	32.3841
172	102	115	70.4816
173	103	104	34.1979
174	103	116	71.369
175	104	117	69.0561
176	105	106	53.8512
177	106	122	105.141
178	106	107	49.8678
179	107	108	56.26677
180	107	123	101.961
181	108	109	54.933
182	108	124	104.29
183	109	126	74.9101
184	109	110	35.6298
185	110	128	70.8298
186	110	111	55.9024
187	111	130	70.482
188	111	112	33.129
189	112	131	37.9301
190	112	113	36.1052
191	113	114	38.6076
192	113	132	73.2728
193	114	115	34.9529
194	114	133	99.481
195	115	116	34.2827
196	115	134	64.5282
197	116	136	65.681
198	116	117	35.9346
199	117	137	64.7286
200	117	118	57.8484
201	118	140	62.2239
202	119	120	54.9179
203	119	121	67.7959
204	120	158	189.378
205	121	122	52.8924
206	120	125	213.736

ARCO	INICIO	FIN	DIST. (m.)
207	122	123	53.1818
208	123	124	52.776
209	124	125	54.4339
210	125	127	56.8497
211	125	149	52.1026
212	126	127	86.1021
213	127	129	60.343
214	128	126	35.8636
215	128	130	49.2652
216	129	147	54.862
217	129	142	53.7874
218	130	131	33.129
219	131	142	70.1326
220	131	132	38.5059
221	132	143	65.2016
222	133	144	36.2043
223	133	135	35.4376
224	134	135	34.4812
225	134	136	33.1288
226	135	138	66.9287
227	136	137	31.7924
228	137	138	35.1669
229	138	139	37.2583
230	140	141	73.9397
231	141	168	236.314
232	139	144	106.587
233	144	143	37.0933
234	143	145	34.7032
235	145	146	51.4831
236	145	154	113.503
237	146	147	39.1735
238	146	154	69.7057
239	147	148	65.0199
240	147	153	72.5349
241	148	149	63.3522
242	148	152	50.9002
243	150	160	86.1503
244	150	151	51.8006
245	151	152	52.037
246	151	161	107.925
247	152	162	101.52
248	153	154	36.3314

ARCO	INICIO	FIN	DIST. (m.)
249	153	155	53.6128
250	155	157	174.964
251	155	156	51.0941
252	156	164	52.6237
253	156	165	82.3904
254	156	157	125.906
255	157	166	80.4691
256	158	177	195.938
257	158	197	74.0713
258	197	176	194.164
259	197	159	54.756
260	159	160	45.6942
261	159	175	194.307
262	160	161	54.8116
263	161	162	68.7882
264	161	163	48.1658
265	162	164	46.2875
266	163	164	58.1989
267	163	199	50.2459
268	164	200	49.2999
269	200	199	51.8761
270	200	173	103.514
271	200	165	53.6096
272	165	166	123.717
273	166	167	23.4802
274	166	171	177.107
275	167	168	81.0182
276	167	170	172.591
277	168	169	189.018
278	169	192	154.858
279	169	170	61.2934
280	170	189	49.0359
281	170	171	49.7405
282	171	172	74.7092
283	172	200	123.75
284	172	173	69.6218

ARCO	INICIO	FIN	DIST. (m.)
285	172	183	106.546
286	173	174	70.8823
287	173	164	104.286
288	173	183	124.896
289	173	199	98.8072
290	173	182	152.157
291	174	199	80.6645
292	174	175	125.916
293	174	181	152.497
294	175	180	153.074
295	175	176	53.0342
296	176	177	65.1056
297	176	179	153.012
298	177	178	156.33
299	178	179	59.153
300	179	180	54.5438
301	180	181	125.411
302	181	182	54.0534
303	182	184	45.9324
304	183	184	46.7568
305	184	185	58.1401
306	185	193	156.302
307	186	187	32.7098
308	186	189	74.251
309	187	188	48.8129
310	187	190	69.8278
311	188	191	73.5215
312	188	185	31.4544
313	189	190	37.4001
314	190	191	52.0989
315	191	192	58.7934
316	192	193	34.7326

Mapa 18

ARCO	INICIO	FIN	DIST. (m.)
1	1	2	65.11
2	1	59	234.93
3	2	3	103.92
4	2	55	58.98
5	3	4	61.86
6	3	52	53.94
7	4	5	161.74
8	4	51	100.64
9	5	6	48.98
10	5	42	98.75
11	6	7	50.23
12	6	41	183.14
13	7	8	115.91
14	7	38	57.16
15	8	9	275.51
16	8	35	54.36
17	9	10	53.2
18	9	22	135.79
19	10	11	177.68
20	10	23	127.72
21	11	12	54.45
22	11	23	79.23
23	12	13	105.07
24	12	21	133.58
25	12	15	186.56
26	13	21	129.28
27	13	19	131.27
28	13	14	89.13
29	14	18	104.52
30	14	17	176.85
31	14	15	54.74
32	15	16	215.9
33	16	17	56.37
34	16	74	203.27
35	17	27	102.85
36	18	19	52.83
37	18	26	169.34
38	19	25	175.2

ARCO	INICIO	FIN	DIST. (m.)
39	19	20	51.3
40	20	21	49.74
41	20	24	172.66
42	21	22	50.33
43	22	23	51.38
44	24	33	52.72
45	24	25	52.54
46	25	26	51.22
47	26	27	68.72
48	27	28	52.1
49	28	29	54.31
50	28	33	182.24
51	29	74	58.81
52	29	72	100.11
53	29	30	87.14
54	30	71	111.2
55	30	31	56.59
56	31	46	166.9
57	31	32	49.19
58	32	33	52.72
59	32	40	63.19
60	34	35	74.52
61	34	37	54.36
62	35	36	53.29
63	36	37	75.19
64	37	39	63.86
65	38	39	73.94
66	39	40	53.11
67	40	41	46.96
68	41	45	52.05
69	42	43	50.42
70	42	45	82.2
77	43	44	54.54
78	43	48	133.67
79	44	51	57.91
80	44	49	132.25
71	45	46	52.72
72	46	48	51.57
73	46	47	54.85
74	47	71	57.42

ARCO	INICIO	FIN	DIST. (m.)
75	47	69	161.52
76	48	49	51.6
81	49	50	56.37
82	50	51	135.49
83	50	69	53.78
84	52	53	53.03
85	52	55	105.25
86	53	56	104.67
87	53	54	129.85
88	54	57	107.16
89	54	70	53.61
90	55	56	50.57
91	56	57	128.12
92	57	60	50.8
93	58	59	54.85
94	59	60	56.67
95	59	61	50.88

ARCO	INICIO	FIN	DIST. (m.)
96	60	70	107.47
97	61	62	58.54
98	61	68	223.95
99	62	63	52.78
100	62	67	205.49
101	63	64	84.94
102	63	66	189.35
103	64	65	109.41
104	65	66	47.79
105	65	73	244.66
106	66	67	49.65
107	67	68	53.69
108	68	69	47.83
109	69	70	64.85
110	71	72	105.3
111	72	73	56.71

Anexo 7. Fórmulas para el LINGO

Mapa 1

Min

101.82X001002+85.36X001003+63.28X002003+39.73X002004+31.9X003005+83.04X004005+3
8.84X004006+34.89X005008+52.79X006007+73.95X006012+52.64X007008+27.51X007010+21.
32X008011+48.6X009010+34.39X009013+51.75X010011+35.54X010014+34.07X011015+29.21
X012016+52.79X012013+46.98X013014+25.74X013017+56.14X014015+26.1X014018+33.65X0
15019+45.2X016017+34.18X016020+26.81X017021+50.33X017018+40.46X018019+33.6X0180
22+19.88X019023+30.94X020024+58.4X020021+33.9X021025+52.58X021022+31.68X022026+
44X022023+35.32X023027+44.09X024025+26.13X024028+51.39X025026+21.66X025029+41.5
2X026027+23.51X026030+31.05X027031+44.01X028029+33.74X028032+47.94X029030+34.35
X029033+39.25X030031+31.45X030034+5.95X031035+45.65X032033+31.97X032036+50.93X0
33034+23.51X033037+38.4X034035+22.35X034038+30.41X035039+47.4X036037+37.76X0360
40+48.6X037038+33.69X037041+37.99X038039+33.52X038042+32.8X039043+44.3X040041+2
2.43X040044+50.46X041042+23.05X041045+37.46X042043+24.12X042046+21.74X043047+45.
1X044045+26.23X044048+50.52X045046+31.31X045049+36.55X046047+28.14X046050+26.64
X047051+46.04X048049+24.45X048056+48.03X049050+28.41X049057+39.39X050051+29.58X
050058+28.1X051059+33.38X052053+33.42X052060+42.75X053054+38.9X053061+51.68X054
055+35.67X054062+35.7X055063+35.46X055056+59.64X056057+34.84X056064+51.57X05705
8+33.72X057065+31.16X058066+33.84X058059+36.3X059067+44.71X060061+20.15X060068+
45.87X061062+26.52X061069+51.74X062063+25.5X062070+57.36X063064+25X063070+54.84
X064065+27.03X064071+49.88X065066+26.65X065072+27.9X066073+25.81X067075+49.36X0
68069+31.66X068076+44.13X069070+32.44X069077+48.34X070071+30.42X070078+59.77X07
1072+34.3X071079+53.37X072073+32.61X072080+48.13X073074+29.92X073081+48.58X0740
75+31.05X074082+25.94X075085+52.16X076077+26.93X076084+45.81X077078+22.14X07708
5+49.16X078079+24.06X078086+60.8X079080+25.26X079087+63.05X080081+23.34X080088+
48.99X081082+21.77X081089+46.52X082083+24.04X082090+35.64X083091+47.35X084085+3
3.4X084092+47.94X085086+37.11X085093+49.2X086087+35.07X086094+54.13X087088+38.28

X087095+61.16X088089+33.4X088096+52.21X089090+35.26X089097+46.39X090091+36.77X090098+23.37X091099+47.41X092093+37.69X092100+49.74X093094+38.09X093101+53.05X094095+37.47X094102+57.18X095096+39.73X095103+61.39X096097+38.54X096104+52.08X097098+27.27X097105+46.83X098099+44.47X098106+31.55X099107+50.58X100101+51.63X100116+50.33X101102+272.53X101117+51.58X102103+53.8X102108+56.23X103104+59.94X104105+51.62X105106+77.81X105111+45.29X106107+87.86X106111+310.88X107120+59.17X108109+175.42X108112+188.79X109110+157.79X109113+65.81X110111+145.82X110114+223.76X111115+55.94X112118+56.86X112113+127.71X113114+47.61X114115+46.4X115119+48.35X116121+60.67X116117+53.83X117118+234.17X118119+63.37X119120+60.22X120125+68.4X121122+57.82X121126+54.38X122123+52.16X123218+72.53X124125+157.61X125132+60.74X126128+86.09X127128+79.85X128135+48.04X129130+205.34X130218+58.8X131132+301.59X132146+56.24X133138+21.74X134144+217.11X135144+53.95X136137+72.27X138139+54.5X139141+198.55X140141+60.22X141142+57.78X142143+84.73X143219+44.49X144219+122.79X145146+123.85X146151+64.2X147152+205.37X147148+54.91X149150+68.73X150219+54.38X151159+103.79X152160+135.88X153154+52.72X154161+51.1X153155+69.61X155156+54.44X157164+57.3X158159+108.2X159168+56.63X160161+107.62X154162+89.79X161163+56.02X164166+49.48X165166+53.16X166169+112.3X164167+55.17X168171+57.88X169177+122.86X170171+53.55X172178+52.7X173179+59.69X174181+139.03X174175+52.72X175176+138.31X176177+53.86X178185+146.67X172179+54.94X180189+121.24X181200+116.58X181182+55.94X182183+44.49X183184+58.13X184185+60.46X185186+69.29X187188+82.26X188192+67.37X188189+57.91X190191+90.62X191194+72.25X192193+112.4X193196+58.33X194197+60.32X194195+106.16X195196+57.75X197198+59.82X199220+72.39X200201+129.8X201202+53.48X20203+57.86X203204+205.92X205210+150.17X206211+55.17X206207+62.15X207208+57.68X209210+53.12X210211+52.69X211212+61.04X212215+55.22X213214+166.42X214215+60.99X215216+62.96X124218

S.T.

X001002+X002003+X002004>=2
X001003+X002003+X003005>=2
X002004+X004005+X004006>=2
X003005+X004005+X005008>=2
X004006+X006007+X006012>=2
X006007+X007008+X007010>=2

X005008+X007008+X008011>=2
X007010+X009010+X010011+X010014>=2
X008011+X010011+X011015>=2
X006012+X012016+X012013>=2
X009013+X012013+X013014+X013017>=2
X010014+X013014+X014015+X014018>=2

X011015+X014015+X015019>=2	X043047+X046047+X047051>=2
X012016+X016017+X016020>=2	X044048+X048049+X048056>=2
X013017+X016017+X017021+X017018>=2	X045049+X048049+X049050+X049057>=2
X014018+X017018+X018019+X018022>=2	X046050+X049050+X050051+X050058>=2
X015019+X018019+X019023>=2	X047051+X050051+X051059>=2
X016020+X020024+X020021>=2	X052053+X053054+X053061>=2
X017021+X020021+X021025+X021022>=2	X053054+X054055+X054062>=2
X018022+X021022+X022026+X022023>=2	X054055+X055063+X055056>=2
X019023+X022023+X023027>=2	X048056+X055056+X056057+X056064>=2
X020024+X024025+X024028>=2	X049057+X056057+X057058+X057065>=2
X021025+X024025+X025026+X025029>=2	X050058+X057058+X058066+X058059>=2
X022026+X025026+X026027+X026030>=2	X051059+X058059+X059067>=2
X023027+X026027+X027031>=2	X052060+X060061+X060068>=2
X024028+X028029+X028032>=2	X053061+X060061+X061062+X061069>=2
X025029+X028029+X029030+X029033>=2	X054062+X061062+X062063+X062070>=2
X026030+X029030+X030031+X030034>=2	X055063+X062063+X063064+X063070>=2
X027031+X030031+X031035>=2	X056064+X063064+X064065+X064071>=2
X028032+X032033+X032036>=2	X057065+X064065+X065066+X065072>=2
X029033+X032033+X033034+X033037>=2	X058066+X065066+X066073>=2
X030034+X033034+X034035+X034038>=2	X060068+X068069+X068076>=2
X031035+X034035+X035039>=2	X061069+X068069+X069070+X069077>=2
X032036+X036037+X036040>=2	X062070+X063070+X069070+X070071+X070078>=2
X033037+X036037+X037038+X037041>=2	X064071+X070071+X071072+X071079>=2
X034038+X037038+X038039+X038042>=2	X065072+X071072+X072073+X072080>=2
X035039+X038039+X039043>=2	X066073+X072073+X073074+X073081>=2
X036040+X040041+X040044>=2	X073074+X074075+X074082>=2
X037041+X040041+X041042+X041045>=2	X067075+X074075+X075085>=2
X038042+X041042+X042043+X042046>=2	X068076+X076077+X076084>=2
X039043+X042043+X043047>=2	X069077+X076077+X077078+X077085>=2
X040044+X044045+X044048>=2	X070078+X077078+X078079+X078086>=2
X041045+X044045+X045046+X045049>=2	X071079+X078079+X079080+X079087>=2
X042046+X045046+X046047+X046050>=2	

X072080+X079080+X080081+X080088>=2	X108112+X112118+X112113>=2
X073081+X080081+X081082+X081089>=2	X109113+X112113+X113114>=2
X074082+X081082+X082083+X082090>=2	X110114+X113114+X114115>=2
X076084+X084085+X084092>=2	X111115+X114115+X115119>=2
X075085+X077085+X084085+X085086+X085093>=2	X100116+X116121+X116117>=2
X078086+X085086+X086087+X086094>=2	X101117+X116117+X117118>=2
X079087+X086087+X087088+X087095>=2	X112118+X117118+X118119>=2
X080088+X087088+X088089+X088096>=2	X115119+X118119+X119120>=2
X081089+X088089+X089090+X089097>=2	X107120+X119120+X120125>=2
X082090+X089090+X090091+X090098>=2	X116121+X121122+X121126>=2
X083091+X090091+X091099>=2	X120125+X124125+X125132>=2
X084092+X092093+X092100>=2	X127128>=1
X085093+X092093+X093094+X093101>=2	X126128+X127128+X128135>=2
X086094+X093094+X094095+X094102>=2	X129130>=1
X087095+X094095+X095096+X095103>=2	X131132>=1
X088096+X095096+X096097+X096104>=2	X125132+X131132+X132146>=2
X089097+X096097+X097098+X097105>=2	X133138>=1
X090098+X097098+X098099+X098106>=2	X134144>=1
X091099+X098099+X099107>=2	X136137>=1
X092100+X100101+X100116>=2	X136137>=1
X093101+X100101+X101102+X101117>=2	X140141>=1
X094102+X101102+X102103+X102108>=2	X139141+X140141+X141142>=2
X095103+X102103+X103104>=2	X134144+X135144+X144219>=2
X096104+X103104+X104105>=2	X145146>=1
X097105+X104105+X105106+X105111>=2	X132146+X145146+X146151>=2
X098106+X105106+X106107+X106111>=2	X147148>=1
X099107+X106107+X107120>=2	X149150>=1
X102108+X108109+X108112>=2	X153154+X154161+X154162>=2
X108109+X109110+X109113>=2	X155156>=1
X109110+X110111+X110114>=2	X157164>=1
X105111+X106111+X110111+X111115>=2	X158159>=1
	X151159+X158159+X159168>=2

X154161+X160161+X161163>=2	X001002+X002003>=1
X154162>=1	X001003+X002003>=1
X161163>=1	X002004+X004005>=1
X157164+X164166+X164167>=2	X003005+X004005>=1
X165166>=1	X004006+X006007>=1
X164166+X165166+X166169>=2	X006007+X007008>=1
X164167>=1	X005008+X007008>=1
X170171>=1	X009010>=1
X173179>=1	X009010+X010011+X010014>=1
X180189>=1	X008011+X010011>=1
X174181+X181200+X181182>=2	X006012+X012016>=1
X178185+X184185+X185186>=2	X012013+X013014+X013017>=1
X185186>=1	X013014+X014015+X014018>=1
X187188>=1	X011015+X014015>=1
X187188+X188192+X188189>=2	X012016+X016017>=1
X190191>=1	X016017+X017021+X017018>=1
X191194+X194197+X194195>=2	X017018+X018019+X018022>=1
X197198>=1	X015019+X018019>=1
X199220>=1	X016020+X020024>=1
X203204>=1	X020021+X021025+X021022>=1
X205210>=1	X021022+X022026+X022023>=1
X207208>=1	X019023+X022023>=1
X209210>=1	X020024+X024025>=1
X205210+X209210+X210211>=2	X024025+X025026+X025029>=1
X206211+X210211+X211212>=2	X025026+X026027+X026030>=1
X213214>=1	X023027+X026027>=1
X212215+X214215+X215216>=2	X024028+X028029>=1
X215216>=1	X028029+X029030+X029033>=1
X123218+X130218+X124218>=2	X029030+X030031+X030034>=1
X143219+X144219+X150219>=2	X027031+X030031>=1
X199220>=1	X028032+X032033>=1
X001002>=1	X032033+X033034+X033037>=1

X033034+X034035+X034038>=1
 X031035+X034035>=1
 X032036+X036037>=1
 X036037+X037038+X037041>=1
 X037038+X038039+X038042>=1
 X035039+X038039>=1
 X036040+X040041>=1
 X040041+X041042+X041045>=1
 X041042+X042043+X042046>=1
 X039043+X042043>=1
 X040044+X044045>=1
 X044045+X045046+X045049>=1
 X045046+X046047+X046050>=1
 X043047+X046047>=1
 X044048+X048049>=1
 X048049+X049050+X049057>=1
 X049050+X050051+X050058>=1
 X047051+X050051>=1
 X052053>=1
 X052053+X053054>=1
 X053054+X054055>=1
 X054055+X055063>=1
 X055056+X056057+X056064>=1
 X056057+X057058+X057065>=1
 X057058+X058066+X058059>=1
 X051059+X058059>=1
 X052060+X060061>=1
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X100101+X101102+X101117>=1	X139141+X140141>=1
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Mapa 2

Min

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 +53.39X007009+50.01X008010+63.14X008020+55.55X009010+46.03X010012+57.29X011012+
 61.34X011013+56.86X011016+68.13X012023+69.05X013018+194.48X013026+102.74X014016
 +54.7X014017+59.74X014018+57.72X015016+110.85X015017+125.52X018030+64.46X019021
 +56.28X020022+168.73X021033+102.43X022024+105.76X022154+46.09X023024+78.52X0240
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9X137146+57.29X139140+64.63X140141+40X141145+52.25X141142+59.16X142143+86.18X14
2150+99.5X143144+71.99X143151+60.93X144152+271.96X145146+55.54X145149+60.66X146
148+59.89X147148+269.76X148149+60.76X149150+45.91X150151+103.72X151152+88.09X15
2153

S.T.

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X002003+X003005+X003007>=2	X027028+X028029+X028051>=2
X001004+X004015+X004007>=2	X028029+X029032+X029048>=2
X003005+X005008+X005009>=2	X018030+X027030+X030031>=2
X002006+X006008+X006019>=2	X021033+X033034+X033038>=2
X003007+X004007+X007009>=2	X033034+X034035+X034038+X034154>=2
X005008+X006008+X008010+X008020>=2	X026035+X034035+X035044>=2
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X008010+X009010+X010012>=2	X037038+X037044+X037045>=2
X011012+X011013+X011016>=2	X033038+X034038+X037038+X038039>=2
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X022024+X023024+X024025>=2	X029048+X048049+X048051>=2
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X028051+X048051+X051052>=2	X086088+X087088+X088097+X088099>=2
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X047055+X054055+X055056>=2	X091092+X092093+X092096+X092103+X092103>=2
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Mapa 3

Min

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6010+108.506X007008+42.1299X008174+54.1326X008009+45.8318X009011+36.5976X010174
+101.12X010015+93.6911X011012+45.0316X011013+46.9792X012174+44.3403X012014+96.4
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X024026+51.7565X025028+166.811X026032+46.5192X026027+50.4069X027029+137.467X027
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34X034048+58.2035X034093+54.5212X036037+174.157X036046+58.5438X037038+84.6363X0
37040+35.8722X038039+81.6732X038040+126.415X039040+96.058X040041+108.007X040043
+38.0154X041043+82.116X041042+164.052X042045+86.1279X043044+147.025X043046+59.0
387X044045+198.776X044099+45.943X045103+73.3098X046047+52.8333X047099+51.3658X0
47049+53.765X048049+116.25X048097+114.433X049098+58.0245X050053+52.9607X050051+
76.817X051052+68.5519X052062+103.398X052093+92.8147X053060+95.6738X054057+47.31
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712X064082+116.389X065081+56.2801X065067+51.8876X066067+174.868X067068+69.7163X
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+50.9042X166171+99.1454X166168+42.6441X167168+53.4042X168169+55.0036X169170+55.
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S.T.

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X088092+X092095>=1	X091124+X124125>=1
X052093+X093094>=1	X125126+X125128>=1
X094096+X094095>=1	X126127+X126129>=1
X092095+X094095>=1	X126127+X127130>=1

X078128+X128129>=1	X160161+X160162>=1
X126129+X129130+X129131>=1	X160161>=1
X129130+X130157>=1	X162171>=1
X131132+X131135>=1	X159163+X163165>=1
X077132+X131132+X132134>=1	X164167+X164165>=1
X133139>=1	X164165+X165166>=1
X132134+X134135+X134137>=1	X166171+X166168>=1
X131135+X135136+X135152>=1	X164167+X167168>=1
X136137+X136151>=1	X167168+X168169>=1
X136137+X137142>=1	X168169+X169170>=1
X138141>=1	X169170+X170173>=1
X075139+X139140+X139148>=1	X166171+X171172>=1
X139140+X140149>=1	X172173>=1
X141142+X141149>=1	X172173>=1
X141142+X142143>=1	X010174+X012174>=1
X142143+X143145+X143144>=1	X002175+X003175>=1
X144155+X144146>=1	X001002+X002009>=1
X145150+X145146>=1	X003005+X003175>=1
X145146>=1	X003004+X004007>=1
X147148>=1	X003005+X005006>=1
X147148+X148149>=1	X005006+X006010>=1
X140149+X148149+X149150>=1	X004007+X007008>=1
X149150>=1	X007008+X008009>=1
X143151+X151153>=1	X002009+X009011>=1
X152153+X152154>=1	X006010+X010015>=1
X152153+X153155>=1	X009011+X011013>=1
X154156+X154158>=1	X011012+X012174+X012014>=1
X153155+X155156>=1	X011013+X013016>=1
X155156+X156161>=1	X012014+X013014+X014015>=1
X130157+X157158>=1	X010015+X015018>=1
X157158+X158159>=1	X013016+X016058>=1
X159163+X159160>=1	X016017+X017019>=1

X015018+X018022>=1	X019054+X054055>=1
X017019+X019054>=1	X020055+X055056>=1
X019020+X020055>=1	X021056+X056059>=1
X020021+X021056>=1	X054057+X057059+X057063>=1
X018022+X022050>=1	X016058+X058066>=1
X022023+X023025>=1	X056059+X059060>=1
X023024+X024026>=1	X053060+X059060+X060085>=1
X023025+X025028>=1	X060061+X061087>=1
X024026+X026027>=1	X052062+X061062+X062088>=1
X026027+X027028>=1	X057063+X063064>=1
X025028+X028030>=1	X063064+X064082>=1
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X028030+X030035>=1	X065067+X067068>=1
X029031+X031035>=1	X067068+X068080>=1
X026032+X032033>=1	X068069+X069070+X069072>=1
X032033+X033047>=1	X069070+X070072>=1
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X030035+X034035>=1	X069072+X070072+X072078>=1
X036037+X037040>=1	X071073+X073076>=1
X037038+X038040>=1	X071074+X074076>=1
X037040+X038040+X040041>=1	X074075+X075147>=1
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X043044+X044099>=1	X072078+X078079+X078128>=1
X042045+X045103>=1	X069079+X079124>=1
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X062088+X088092>=1	X112120+X119120+X120164>=1
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X090095+X094095>=1	X123127+X127130>=1
X094096+X096107+X096123>=1	X125128+X128129>=1
X048097+X097107>=1	X126129+X128129+X129131>=1
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X044099+X099100>=1	X129131+X131135>=1
X098100+X100101>=1	X077132+X078132+X132134>=1
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X101102+X102105>=1	X131135+X134135+X135152>=1
X045103+X103106>=1	X135136+X136151>=1
X101104+X104109>=1	X134137+X137142>=1
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X108110+X110112>=1	X143144+X144146>=1
X109111+X110111+X111114>=1	X143145+X145146>=1
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X111114+X106114>=1	X136151+X151153>=1
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X115116+X116170>=1	X151153+X153155>=1
X116117+X117169>=1	X152154+X154158>=1
X117118+X118119>=1	X144155+X155156>=1

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X154158+X158159>=1	X053060+X059060+X060061>=1
X158159+X159160>=1	X052062+X061062+X062092>=1
X159160+X160162>=1	X068069+X069070+X069079>=1
X121163+X163165>=1	X069072+X070072+X072073>=1
X120164+X164165>=1	X072078+X078079+X078132>=1
X163165+X165166>=1	X086090+X089090+X090091>=1
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X118167+X167168>=1	X096107+X097107+X107108>=1
X166168+X168169>=1	X109111+X110111+X111113>=1
X117169+X169170>=1	X111113+X112113+X113115>=1
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X037040+X038040+X039040>=1	X142143+X143151+X143145>=1
X040043+X041043+X043044>=1	X140149+X141149+X148149>=1

Mapa 4

Min

67.2856X001002+137.071X001006+48.3734X002003+105.96X003004+144.909X003006+54.30
 68X004005+158.733X004011+49.2994X005009+159.183X005011+59.6296X006007+59.4586X0
 07008+133.923X007041+89.8498X008016+58.4211X008040+65.2909X009010+71.9981X00901
 6+94.4803X010015+108.256X010017+107.763X011012+26.621X012013+76.003X012014+68.6
 534X013015+191.209X013019+56.9356X014020+164.043X015018+35.3629X016017+51.5764X
 017018+60.0717X018019+58.7852X019025+57.7543X019051+130.237X020021+52.254X02016
 3+52.254X021162+147.636X021032+89.6444X022023+91.1468X023026+139.213X023027+58.
 399X024025+50.9038X024026+139.96X025038+48.9137X026027+36.0228X027030+179.046X0
 28029+51.3912X028031+39.1903X029030+59.0749X030038+49.7512X031033+179.623X03103
 6+49.9567X032033+55.1306X032034+56.0181X034035+350.898X034074+150.043X034159+20
 7.907X035079+57.539X035090+43.9988X036037+179.452X033037+58.9911X037039+140.624
 X038039+60.5104X038057+57.4434X039160+74.3761X040042+118.84X041045+102.428X0420
 44+130.052X043044+54.5542X043051+64.2735X044045+52.2532X044048+103.046X045046+5
 0.7285X046047+45.9856X046062+48.5982X047048+122.321X047060+30.0399X048049+21.32
 16X048165+50.9034X049050+95.1024X049054+50.9035X050051+96.831X050053+102.001X05
 1052+53.2113X052053+49.4203X052056+51.8863X053054+49.0458X054055+96.6688X055056
 +45.9413X055058+44.9501X056057+100.301X057058+50.729X057069+50.5806X058068+88.1
 418X059060+119.305X059076+51.5296X060061+93.3169X061164+146.835X061062+56.9772X
 062063+208.334X062076+49.7505X062064+144.854X063066+71.1579X064065+240.89X06407
 7+61.3052X065066+166.235X065067+113.11X067078+63.2672X067101+101.458X068069+38.
 041X068072+34.0651X069070+99.1439X070072+48.4156X070071+99.1439X071073+60.5104X
 071074+48.8087X072073+58.9908X073075+101.807X074075+132.934X074098+68.7683X0750
 99+51.6225X075078+48.8086X076077+57.5379X077078+202.102X079080+55.5228X079086+5
 4.3677X080081+103.123X081124+55.2273X081082+66.5096X082123+38.0421X082083+63.78
 51X083122+36.6902X083084+67.619X084121+35.5371X084085+66.4683X085120+41.1619X08
 5086+70.8913X086119+94.7019X086087+72.4248X087118+37.1337X087088+70.7271X088117
 +35.3635X088089+74.7255X089116+41.3106X089090+76.0834X090115+38.9986X090091+118
 .52X091114+35.9947X091092+117.176X092113+130.237X092093+114.87X093111+40X093094

+167.118X094110+40.0006X094095+173.074X095109+60.3185X095096+114.869X096106+50.
2423X097098+61.3394X097105+77.4093X098106+132.015X099100+90.8819X099105+47.1249
X100101+117.781X100166+137.449X101102+53.044X102103+194.653X103104+124.101X1041
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7.6808X110112+54.2032X111112+131.391X111113+86.6376X112144+36.2781X113114+35.22
8X114130+32.7997X115130+38.5409X115116+35.1505X116117+38.0418X117118+93.3662X11
8119+40.8122X119120+39.191X119126+37.8441X120121+35.9952X121122+45.6296X122123+
39.9332X123157+61.3078X124157+171.079X124132+156.525X125134+52.4763X125126+61.7
954X126127+158.345X126135+156.052X127136+51.1053X127128+151.47X128137+52.0581X1
28129+168.333X129138+92.3463X130131+159.972X112131+175.749X131144+154.632X13113
8+194.549X132149+71.3861X132133+47.4126X133146+122.372X133134+50.2367X134147+48
.0239X134135+59.0067X135136+51.3918X136137+35.995X137138+178.555X138140+57.5456
X138139+170.311X139140+158.667X139141+113.936X140144+190.882X141167+140.42X1411
45+70.2251X142167+102.205X143145+28.0668X144167+143.877X144156+162.415X144145+1
40.717X146158+51.3089X147150+76.8435X148149+149.44X149153+84.3394X150151+238.21
2X150156+51.1358X151154+53.7047X152153+143.35X152154+142.921X153155+59.3616X154
155+53.7901X155156+107.479X125157+32.2247X148158+116.601X151158+66.4673X093159+
143.493X159160+55.9138X074160+63.4941X096160+44.2308X107161+37.6807X108161+82.0
404X022162+45.9419X028162+51.0963X022163+181.365X024163+200.695X063164+166.396X
059165+44.9498X047165+54.1268X102166+143.78X105166

S.T.

X002003+X003004+X003006>=2
X003004+X004005+X004011>=2
X004005+X005009+X005011>=2
X001006+X003006+X006007>=2
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X007008+X008016+X008040>=2
X005009+X009010+X009016>=2
X009010+X010015+X010017>=2
X004011+X005011+X011012>=2
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X012013+X013015+X013019>=2

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X020021+X021162+X021032>=2
X022023+X022162+X022163>=2
X022023+X023026+X023027>=2
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X028029+X028031+X028162>=2	X064065+X065066+X065067>=2
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X125134+X125126+X125157>=2	X106161+X107161+X108161>=2
X119126+X125126+X126127+X126135>=2	X021162+X022162+X028162>=2
X126127+X127136+X127128>=2	X020163+X022163+X024163>=2
X127128+X128137+X128129>=2	X048165+X059165+X047165>=2
X114130+X115130+X130131>=2	X100166+X102166+X105166>=2
X130131+X112131+X131144+X131138>=2	X141167+X142167+X144167>=2

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X001002>=1	X034035+X034074+X034159>=1
X002003+X003004>=1	X034035+X035079>=1
X003004+X004005>=1	X031036>=1
X004005+X005009>=1	X036037+X033037>=1
X001006+X003006>=1	X030038+X038039+X038057>=1
X006007+X007008>=1	X037039+X038039>=1
X007008+X008016>=1	X008040>=1
X005009+X009010>=1	X007041>=1
X009010+X010015>=1	X040042>=1
X004011+X005011>=1	X043044>=1
X011012+X012013>=1	X043044+X044045+X044048>=1
X012013+X013015>=1	X041045+X044045>=1
X012014>=1	X045046+X046047>=1
X010015+X013015>=1	X047048+X047060+X047165>=1
X008016+X009016>=1	X047048+X048049+X048165>=1
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X014020+X020021>=1	X051052+X052053>=1
X020021+X021162>=1	X050053+X052053>=1
X022023+X022162>=1	X049054+X053054>=1
X022023+X023026>=1	X054055+X055056>=1
X024025+X024026>=1	X052056+X055056>=1
X019025+X024025>=1	X056057+X057058+X057069>=1
X023026+X024026>=1	X055058+X057058>=1
X023027+X026027>=1	X059060+X059076>=1
X028029+X028031>=1	X047060+X059060>=1
X028029>=1	X060061+X061164>=1
X027030+X029030>=1	X061062+X062063+X062076>=1
X028031+X031033>=1	X062063+X063066>=1
X021032+X032033>=1	X062064+X064065>=1

X064065+X065066>=1	X097098>=1
X063066>=1	X074098+X097098>=1
X065067+X067078>=1	X075099+X099100>=1
X058068+X068069>=1	X099100+X100101>=1
X057069+X068069>=1	X067101+X100101>=1
X069070+X070072>=1	X101102+X102103>=1
X070071+X071073>=1	X102103>=1
X068072+X070072>=1	X103104>=1
X071073+X072073>=1	X097105+X099105>=1
X071074+X074075+X074098>=1	X096106+X098106>=1
X074075+X075099+X075078>=1	X104107+X107142>=1
X059076+X062076>=1	X108109+X108144>=1
X064077+X076077>=1	X095109+X108109>=1
X067078+X075078>=1	X094110+X109110>=1
X035079+X079080>=1	X093111+X111112>=1
X079080>=1	X111112+X112144+X112131>=1
X080081+X081124>=1	X092113+X111113>=1
X081082+X082123>=1	X091114+X113114>=1
X082083+X083122>=1	X090115+X115130>=1
X083084+X084121>=1	X089116+X115116>=1
X084085+X085120>=1	X088117+X116117>=1
X085086+X086119+X086087>=1	X087118+X117118>=1
X086087+X087118>=1	X118119+X119120+X119126>=1
X087088+X088117>=1	X085120+X119120>=1
X088089+X089116>=1	X084121+X120121>=1
X089090+X090115+X090091>=1	X083122+X121122>=1
X090091+X091114>=1	X082123+X122123>=1
X091092+X092113>=1	X081124+X124157>=1
X093111+X093094+X093159>=1	X125134+X125126>=1
X093094+X094110>=1	X125126+X126127+X126135>=1
X094095+X095109>=1	X126127+X127136>=1
X095096+X096106>=1	X127128+X128137>=1

X128129>=1	X021162+X022162>=1
X114130+X115130>=1	X020163+X022163>=1
X112131+X131144+X131138>=1	X061164>=1
X124132+X132149>=1	X048165+X059165>=1
X132133+X133146>=1	X100166+X102166>=1
X133134+X134147+X134135>=1	X141167+X142167>=1
X126135+X134135>=1	X001006>=1
X127136+X135136>=1	X002003>=1
X128137+X136137>=1	X003004+X003006>=1
X131138+X137138+X138140>=1	X004005+X004011>=1
X138139+X139140>=1	X005009+X005011>=1
X138140+X139140>=1	X003006+X006007>=1
X139141+X141167>=1	X007008+X007041>=1
X107142>=1	X008016+X008040>=1
X112144+X131144+X140144>=1	X009010+X009016>=1
X141145+X143145>=1	X010015+X010017>=1
X133146>=1	X005011+X011012>=1
X134147>=1	X012013+X012014>=1
X148149>=1	X013015+X013019>=1
X132149+X148149>=1	X014020>=1
X147150+X150151>=1	X013015+X015018>=1
X150151+X151154>=1	X009016+X016017>=1
X152153>=1	X016017+X017018>=1
X149153+X152153>=1	X017018+X018019>=1
X151154+X152154>=1	X013019+X019025+X019051>=1
X153155+X154155>=1	X020021+X020163>=1
X144156+X150156>=1	X021162+X021032>=1
X123157+X124157>=1	X022162+X022163>=1
X146158+X148158>=1	X023026+X023027>=1
X034159+X093159>=1	X024026+X024163>=1
X159160+X074160+X096160>=1	X024025+X025038>=1
X106161+X107161>=1	X024026+X026027>=1

X026027+X027030>=1	X059076+X059165>=1
X028031+X028162>=1	X059060+X060061>=1
X029030>=1	X061164+X061062>=1
X029030+X030038>=1	X046062+X062063+X062076>=1
X031033+X031036>=1	X063066+X063164>=1
X032033+X032034>=1	X064065+X064077>=1
X032033+X033037>=1	X065066+X065067>=1
X032034+X034074+X034159>=1	X065066>=1
X035079+X035090>=1	X067078+X067101>=1
X036037>=1	X068069+X068072>=1
X033037+X037039>=1	X068069+X069070>=1
X025038+X038039+X038057>=1	X070072+X070071>=1
X038039+X039160>=1	X071073+X071074>=1
X040042>=1	X070072+X072073>=1
X041045>=1	X072073+X073075>=1
X042044>=1	X034074+X074075+X074098>=1
X043051>=1	X073075+X075099+X075078>=1
X042044+X044045+X044048>=1	X062076+X076077>=1
X044045+X045046>=1	X076077+X077078>=1
X046047+X046062>=1	X075078+X077078>=1
X046047+X047060+X047165>=1	X079080+X079086>=1
X044048+X048049+X048165>=1	X080081>=1
X049050+X049054>=1	X081124+X081082>=1
X050051+X050053>=1	X082123+X082083>=1
X019051+X050051+X051052>=1	X083122+X083084>=1
X052053+X052056>=1	X084121+X084085>=1
X052053+X053054>=1	X085120+X085086>=1
X053054+X054055>=1	X079086+X086119+X086087>=1
X055056+X055058>=1	X087118+X087088>=1
X055056+X056057>=1	X088117+X088089>=1
X038057+X057058+X057069>=1	X089116+X089090>=1
X057058+X058068>=1	X035090+X090115+X090091>=1

X091114+X091092>=1	X122123+X123157>=1
X092113+X092093>=1	X124157+X124132>=1
X092093+X093094+X093159>=1	X125126+X125157>=1
X094110+X094095>=1	X119126+X126127+X126135>=1
X095109+X095096>=1	X127136+X127128>=1
X096106+X096160>=1	X128137+X128129>=1
X097105>=1	X129138>=1
X097098+X098106>=1	X115130+X130131>=1
X099100+X099105>=1	X130131+X131144+X131138>=1
X100101+X100166>=1	X132149+X132133>=1
X100101+X101102>=1	X133146+X133134>=1
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X104107>=1	X135136+X136137>=1
X099105+X105166>=1	X136137+X137138>=1
X098106+X106161>=1	X129138+X137138+X138140>=1
X107142+X107161>=1	X139140+X139141>=1
X108144+X108161>=1	X139140+X140144>=1
X108109+X109110>=1	X141167+X141145>=1
X109110+X110112>=1	X142167>=1
X111112+X111113>=1	X108144+X131144+X140144>=1
X110112+X112144+X112131>=1	X143145+X144145>=1
X111113+X113114>=1	X146158>=1
X113114+X114130>=1	X147150>=1
X115130+X115116>=1	X148158>=1
X115116+X116117>=1	X148149+X149153>=1
X116117+X117118>=1	X150151+X150156>=1
X117118+X118119>=1	X151154+X151158>=1
X086119+X119120+X119126>=1	X152154>=1
X119120+X120121>=1	X152153+X153155>=1
X120121+X121122>=1	X152154+X154155>=1
X121122+X122123>=1	X154155+X155156>=1

X150156+X155156>=1	X024025+X024163>=1
X124157+X125157>=1	X019025+X025038>=1
X148158+X151158>=1	X023026+X026027>=1
X093159+X159160>=1	X023027+X027030>=1
X039160+X074160+X096160>=1	X028029+X028162>=1
X107161+X108161>=1	X027030+X030038>=1
X022162+X028162>=1	X028031+X031036>=1
X022163+X024163>=1	X021032+X032034>=1
X063164>=1	X031033+X033037>=1
X059165+X047165>=1	X032034+X034035+X034159>=1
X102166+X105166>=1	X034035+X035090>=1
X142167+X144167>=1	X036037+X037039>=1
X002003+X003006>=1	X025038+X030038+X038057>=1
X003004+X004011>=1	X037039+X039160>=1
X004005+X005011>=1	X042044+X043044+X044048>=1
X001006+X006007>=1	X041045+X045046>=1
X006007+X007041>=1	X045046+X046062>=1
X007008+X008040>=1	X046047+X047048+X047165>=1
X005009+X009016>=1	X044048+X047048+X048165>=1
X009010+X010017>=1	X048049+X049054>=1
X004011+X011012>=1	X049050+X050053>=1
X011012+X012014>=1	X019051+X043051+X051052>=1
X012013+X013019>=1	X051052+X052056>=1
X010015+X015018>=1	X050053+X053054>=1
X008016+X016017>=1	X049054+X054055>=1
X010017+X017018>=1	X054055+X055058>=1
X015018+X018019>=1	X052056+X056057>=1
X013019+X018019+X019051>=1	X038057+X056057+X057069>=1
X014020+X020163>=1	X055058+X058068>=1
X020021+X021032>=1	X059060+X059165>=1
X022023+X022163>=1	X047060+X060061>=1
X022023+X023027>=1	X060061+X061062>=1

X046062+X061062+X062076>=1	X095096+X096160>=1
X062063+X063164>=1	X074098+X098106>=1
X062064+X064077>=1	X075099+X099105>=1
X064065+X065067>=1	X099100+X100166>=1
X065067+X067101>=1	X067101+X101102>=1
X058068+X068072>=1	X101102+X102166>=1
X057069+X069070>=1	X097105+X105166>=1
X069070+X070071>=1	X096106+X106161>=1
X070071+X071074>=1	X104107+X107161>=1
X068072+X072073>=1	X108109+X108161>=1
X071073+X073075>=1	X095109+X109110>=1
X034074+X071074+X074098>=1	X094110+X110112>=1
X073075+X074075+X075078>=1	X093111+X111113>=1
X059076+X076077>=1	X110112+X111112+X112131>=1
X064077+X077078>=1	X092113+X113114>=1
X067078+X077078>=1	X091114+X114130>=1
X035079+X079086>=1	X090115+X115116>=1
X080081+X081082>=1	X089116+X116117>=1
X081082+X082083>=1	X088117+X117118>=1
X082083+X083084>=1	X087118+X118119>=1
X083084+X084085>=1	X086119+X118119+X119126>=1
X084085+X085086>=1	X085120+X120121>=1
X079086+X085086+X086087>=1	X084121+X121122>=1
X086087+X087088>=1	X083122+X122123>=1
X087088+X088089>=1	X082123+X123157>=1
X088089+X089090>=1	X081124+X124132>=1
X035090+X089090+X090091>=1	X125134+X125157>=1
X090091+X091092>=1	X119126+X125126+X126135>=1
X091092+X092093>=1	X126127+X127128>=1
X092093+X093111+X093159>=1	X127128+X128129>=1
X093094+X094095>=1	X114130+X130131>=1
X094095+X095096>=1	X130131+X112131+X131138>=1

X124132+X132133>=1	X048165+X047165>=1
X132133+X133134>=1	X100166+X105166>=1
X125134+X133134+X134135>=1	X141167+X144167>=1
X126135+X135136>=1	X013019+X018019+X019025>=1
X127136+X136137>=1	X032034+X034035+X034074>=1
X128137+X137138>=1	X025038+X030038+X038039>=1
X129138+X131138+X138140>=1	X042044+X043044+X044045>=1
X138139+X139141>=1	X046047+X047048+X047060>=1
X138140+X140144>=1	X044048+X047048+X048049>=1
X139141+X141145>=1	X019051+X043051+X050051>=1
X108144+X112144+X140144>=1	X038057+X056057+X057058>=1
X141145+X144145>=1	X046062+X061062+X062063>=1
X132149+X149153>=1	X034074+X071074+X074075>=1
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X150151+X151158>=1	X079086+X085086+X086119>=1
X149153+X153155>=1	X035090+X089090+X090115>=1
X151154+X154155>=1	X092093+X093111+X093094>=1
X153155+X155156>=1	X110112+X111112+X112144>=1
X144156+X155156>=1	X086119+X118119+X119120>=1
X123157+X125157>=1	X119126+X125126+X126127>=1
X146158+X151158>=1	X130131+X112131+X131144>=1
X034159+X159160>=1	X125134+X133134+X134147>=1
X039160+X159160+X096160>=1	X129138+X131138+X137138>=1
X106161+X108161>=1	X108144+X112144+X131144>=1
X021162+X028162>=1	X039160+X159160+X074160>=1
X020163+X024163>=1	

Mapa 5

Min

51.62X001002+140.29X001007+63.27X002004+167.89X002003+69.2X003006+102.93X004008
+64.17X004005+98.4X005006+123.85X005009+155.99X006011+56.28X007016+57.29X007008
+69.71X008009+52.25X009010+47.26X010011+108.4X011012+94.89X012013+59.58X013014+
114.12X013029+66.47X014015+55X015016+153.34X010016+125.26X017018+114.12X017025+
82.88X018019+143.92X019020+128.01X019023+170X020021+144.78X020023+121.02X021022
+201.31X021024+117.05X022033+108.13X023024+111.83X024027+83.41X025026+300.81X02
5029+302.06X026030+113.72X026027+127.57X027028+302.06X027031+209.86X028033+190.
21X028034+121.92X030031+107.72X030032+122.61X031035+242.89X032036+270.2X033038+
283.91X034040+116.02X034035+113.72X034044+827.2X035036+978.47X036048+253.96X038
039+382.71X039041+250.23X039097+408.83X040041+178.29X041042+90.68X042044+330.88
X045046+627.85X045051+319.66X045048+77.68X046052+85.28X046052+93.12X047052+175.
18X047051+80.34X047054+80.67X048056+160.96X048049+274.52X049050+64.63X049057+16
3.79X050051+340.5X050053+90.75X052055+76.54X053054+1195.6X053058+78.34X054062+1
68.26X055062+79.34X056057+170.2X056065+105.44X057058+73.38X057066+112.8X058059+
68.77X058062+73.38X059060+73.78X059063+77.99X060061+344.7X060064+340.14X061062+
105.44X061075+99.83X062076+108.25X063064+84.64X063068+140.69X064069+73.37X06506
6+142.54X065070+113.04X066067+146.4X066071+109.53X067068+140.24X067072+139.42X0
68069+439.5X068073+82.81X069074+77.68X070080+120.29X070071+117.67X071072+74.26X
072073+77.68X073074+494.5X074075+148.71X075076+183.22X076085+119.15X077078+236.
85X077083+57.28X078079+75.68X078083+176.68X079080+105.25X080081+61.87X081082+12
0.63X082100+49.95X082103+128.31X083084+54.55X084086+177.01X084088+55.41X085086+
51.88X086087+211.83X087091+223.1X088089+170.07X085089+49.3X085090+100.89X089090
+371.22X017093+662.31X015093+59.58X094106+396.8X094096+40.21X041096+368.51X0960
97+226.71X090099+65.09X088099+311.62X081099+144.08X100101+300.06X100103+315X101
104+115.66X101102+301.6X102105+545.2X103104+152.6X104105+133.93X055106+194.51X0
52106

S.T.

X001002+X002004+X002003>=2

|

X002004+X004008+X004005>=2

X004005+X005006+X005009>=2	X048049+X049050+X049057>=2
X003006+X005006+X006011>=2	X049050+X050051+X050053>=2
X001007+X007016+X007008>=2	X045051+X047051+X050051>=2
X004008+X007008+X008009>=2	X046052+X046052+X047052+X052055+X05
X005009+X008009+X009010>=2	2106>=2
X009010+X010011+X010016>=2	X050053+X053054+X053058>=2
X006011+X010011+X011012>=2	X047054+X053054+X054062>=2
X012013+X013014+X013029>=2	X052055+X055062+X055106>=2
X014015+X015016+X015093>=2	X048056+X056057+X056065>=2
X007016+X015016+X010016>=2	X049057+X056057+X057058+X057066>=2
X017018+X017025+X017093>=2	X053058+X057058+X058059+X058062>=2
X018019+X019020+X019023>=2	X058059+X059060+X059063>=2
X019020+X020021+X020023>=2	X059060+X060061+X060064>=2
X020021+X021022+X021024>=2	X060061+X061062+X061075>=2
X019023+X020023+X023024>=2	X054062+X055062+X058062+X061062+X06
X021024+X023024+X024027>=2	2076>=2
X017025+X025026+X025029>=2	X059063+X063064+X063068>=2
X025026+X026030+X026027>=2	X060064+X063064+X064069>=2
X024027+X026027+X027028+X027031>=2	X056065+X065066+X065070>=2
X027028+X028033+X028034>=2	X057066+X065066+X066067+X066071>=2
X026030+X030031+X030032>=2	X066067+X067068+X067072>=2
X027031+X030031+X031035>=2	X063068+X067068+X068069+X068073>=2
X022033+X028033+X033038>=2	X064069+X068069+X069074>=2
X028034+X034040+X034035+X034044>=2	X065070+X070080+X070071>=2
X031035+X034035+X035036>=2	X066071+X070071+X071072>=2
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X038039+X039041+X039097>=2	X068073+X072073+X073074>=2
X039041+X040041+X041042+X041096>=2	X069074+X073074+X074075>=2
X045046+X045051+X045048>=2	X061075+X074075+X075076>=2
X045046+X046052+X046052>=2	X062076+X075076+X076085>=2
X047052+X047051+X047054>=2	X077078+X078079+X078083>=2
X036048+X045048+X048056+X048049>=2	X070080+X079080+X080081>=2

X080081+X081082+X081099>=2	X007016+X015016>=1
X081082+X082100+X082103>=2	X017018+X017025>=1
X077083+X078083+X083084>=2	X017018>=1
X083084+X084086+X084088>=2	X018019+X019020>=1
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X084086+X085086+X086087>=2	X020021+X021022>=1
X084088+X088089+X088099>=2	X021022>=1
X088089+X085089+X089090>=2	X019023+X020023>=1
X085090+X089090+X090099>=2	X021024+X023024>=1
X087091>=1	X017025+X025026>=1
X094096+X041096+X096097>=2	X025026+X026030>=1
X090099+X088099+X081099>=2	X026027+X027028+X027031>=1
X082100+X100101+X100103>=2	X027028+X028033>=1
X100101+X101104+X101102>=2	X013029>=1
X082103+X100103+X103104>=2	X026030+X030031>=1
X101104+X103104+X104105>=2	X027031+X030031>=1
X094106+X055106+X052106>=2	X030032>=1
X001002>=1	X022033+X028033>=1
X001002+X002004>=1	X034040+X034035+X034044>=1
X002003>=1	X031035+X034035>=1
X002004+X004008>=1	X032036+X035036>=1
X004005+X005006>=1	X033038>=1
X003006+X005006>=1	X038039+X039041>=1
X001007+X007016>=1	X034040>=1
X004008+X007008>=1	X040041+X041042+X041096>=1
X005009+X008009>=1	X041042>=1
X009010+X010011>=1	X034044>=1
X006011+X010011>=1	X045046+X045051>=1
X011012>=1	X045046+X046052>=1
X012013+X013014>=1	X047052+X047051>=1
X013014>=1	X045048+X048056+X048049>=1
X014015+X015016>=1	X048049+X049050>=1

X049050+X050051>=1	X081082+X082100>=1
X045051+X047051>=1	X077083+X078083>=1
X046052+X047052+X052055>=1	X083084+X084086>=1
X050053+X053054>=1	X085086+X085089+X085090>=1
X047054+X053054>=1	X084086+X085086>=1
X055062+X055106>=1	X086087>=1
X048056+X056057>=1	X084088+X088089+X088099>=1
X056057+X057058+X057066>=1	X088089+X085089>=1
X057058+X058059+X058062>=1	X085090+X089090>=1
X058059+X059060>=1	X017093>=1
X059060+X060061>=1	X094106>=1
X060061+X061062>=1	X094096+X041096>=1
X055062+X058062+X061062>=1	X039097>=1
X059063+X063064>=1	X090099+X088099>=1
X060064+X063064>=1	X082100+X100101>=1
X056065+X065066>=1	X100101+X101104>=1
X065066+X066067+X066071>=1	X101102>=1
X066067+X067068>=1	X082103+X100103>=1
X067068+X068069+X068073>=1	X101104+X103104>=1
X064069+X068069>=1	X102105>=1
X065070+X070080>=1	X094106+X055106>=1
X066071+X070071>=1	X001007>=1
X067072+X071072>=1	X002004+X002003>=1
X068073+X072073>=1	X003006>=1
X069074+X073074>=1	X004008+X004005>=1
X061075+X074075>=1	X005006+X005009>=1
X062076+X075076>=1	X005006+X006011>=1
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X077078+X078079>=1	X007008+X008009>=1
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X070080+X079080>=1	X010011+X010016>=1
X080081+X081082>=1	X010011+X011012>=1

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X013014+X013029>=1	X046052+X046052>=1
X014015>=1	X047051+X047054>=1
X015016+X015093>=1	X036048+X048056+X048049>=1
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X018019>=1	X047051+X050051>=1
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X021022+X021024>=1	X053054+X054062>=1
X022033>=1	X052055+X055062+X055106>=1
X020023+X023024>=1	X056057+X056065>=1
X023024+X024027>=1	X049057+X057058+X057066>=1
X025026+X025029>=1	X053058+X058059+X058062>=1
X026030+X026027>=1	X059060+X059063>=1
X024027+X027028+X027031>=1	X060061+X060064>=1
X028033+X028034>=1	X061062+X061075>=1
X025029>=1	X054062+X058062+X061062>=1
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X030031+X031035>=1	X063064+X064069>=1
X032036>=1	X065066+X065070>=1
X028033+X033038>=1	X057066+X066067+X066071>=1
X028034+X034035+X034044>=1	X067068+X067072>=1
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X035036+X036048>=1	X068069+X069074>=1
X038039>=1	X070080+X070071>=1
X039041+X039097>=1	X070071+X071072>=1
X040041>=1	X071072+X072073>=1
X039041+X041042+X041096>=1	X072073+X073074>=1
X042044>=1	X073074+X074075>=1
	X074075+X075076>=1
X042044>=1	X075076+X076085>=1

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X078079+X078083>=1	X009010+X010016>=1
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X079080+X080081>=1	X012013+X013029>=1
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X085086+X086087>=1	X020021+X021024>=1
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X101104+X101102>=1	X031035+X035036>=1
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X004005+X005009>=1	X048049+X049057>=1
X003006+X006011>=1	X049050+X050053>=1
X001007+X007008>=1	X045051+X050051>=1
X004008+X008009>=1	X046052+X046052+X052055>=1

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X052055+X055106>=1	X076085+X085086+X085090>=1
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X049057+X056057+X057066>=1	X084088+X088099>=1
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X054062+X055062+X061062>=1	X082100+X100103>=1
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X060064+X064069>=1	X082103+X103104>=1
X056065+X065070>=1	X101104+X104105>=1
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X066067+X067072>=1	X024027+X026027+X027028>=1
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X065070+X070071>=1	X036048+X045048+X048056>=1
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X070080+X080081>=1	X076085+X085086+X085089>=1
X080081+X081099>=1	X084088+X088089>=1
X081082+X082103>=1	

Mapa 6

Min

39.4142X001002+549.345X001038+53.6324X002003+163.469X002006+56.8555X003004+349.
356X003015+109.956X004005+303.735X004014+59.2614X005006+106.732X005011+63.9461X
006007+59.0718X007008+244.377X007037+48.8063X008009+245.091X008036+50.649X00901
0+239.297X009035+40.0436X010011+242.325X010034+57.3696X011012+109.469X012013+25
9.588X012033+52.2858X013014+52.1724X013078+58.4913X014015+50.0083X015016+55.420
4X016017+339.362X016022+51.4924X017018+290.479X017021+55.2603X018019+234.792X01
8020+259.059X019020+48.4868X020021+63.3609X021021+67.8047X022023+67.2207X023024
+219.085X023029+66.6701X024025+205.257X024059+53.208X025026+156.083X025050+56.2
781X026027+158.38X026049+50.1472X027028+158.043X027048+57.4307X028029+156.648X0
28047+55.9377X029030+55.2285X030031+72.666X030032+153.186X030039+150.862X031040
+104.777X031042+59.8318X032033+83.6107X032039+49.7478X033034+50.81X034035+51.22
81X035036+55.8035X036037+45.1802X037077+267.411X038045+58.4225X039040+103.531X0
40041+151.454X041042+50.9002X041043+151.454X043046+54.306X043044+159.993X044054
+171.715X044045+243.926X044055+49.5686X046054+55.5178X046047+48.5952X047048+70.
8848X048049+51.619X049050+52.5753X050051+48.1294X051052+60.9332X051059+191.835X
051058+77.9905X052053+125.426X053057+170.193X054055+58.9864X055072+47.6589X0560
82+47.4436X056057+51.3269X058080+65.5308X058060+201.12X059060+63.0899X060061+69
.1983X061062+171.78X061066+480.98X061068+45.5648X062063+266.659X062072+53.7557X
063064+271.206X063071+281.225X064070+73.6415X064065+287.353X065069+70.8836X0650
66+488.622X066067+255.896X067068+66.361X069070+56.7602X070071+64.1971X071072+27
2.363X073075+67.4205X044073+272.363X073075+61.6571X073074+579.639X069074+60.506
7X075076+52.0541X038076+247.301X074076+20.1689X076077+50.4024X012078+54.7637X01
9078+91.0477X057079+126.316X052079+101.759X056080+58.4167X079080+50.9X053081+58
.0067X054081+176.96X081082

S.T.

X001002+X002003+X002006>=2

X002003+X003004+X003015>=2

X003004+X004005+X004014>=2

X004005+X005006+X005011>=2

X002006+X005006+X006007>=2

X006007+X007008+X007037>=2

X007008+X008009+X008036>=2	X040041+X041042+X041043>=2
X008009+X009010+X009035>=2	X041043+X043046+X043044>=2
X009010+X010011+X010034>=2	X043044+X044054+X044045+X044055+X04
X005011+X010011+X011012>=2	4073>=2
X011012+X012013+X012033+X012078>=2	X043046+X046054+X046047>=2
X012013+X013014+X013078>=2	X028047+X046047+X047048>=2
X004014+X013014+X014015>=2	X027048+X047048+X048049>=2
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X015016+X016017+X016022>=2	X025050+X049050+X050051>=2
X016017+X017018+X017021>=2	X050051+X051052+X051059+X051058>=2
X017018+X018019+X018020>=2	X051052+X052053+X052079>=2
X018019+X019020+X019078>=2	X052053+X053057+X053081>=2
X018020+X019020+X020021>=2	X044054+X046054+X054055+X054081>=2
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X022023+X023024+X023029>=2	X056082+X056057+X056080>=2
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X012033+X032033+X033034>=2	X061066+X065066+X066067>=2
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X002006+X005006>=1	X001038+X038045>=1
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X060061+X061066+X061068>=1	X011012+X012013+X012078>=1
X062063+X062072>=1	X012013+X013078>=1
X063064+X063071>=1	X004014+X014015>=1
X064070+X064065>=1	X003015+X015016>=1
X065069+X065066>=1	X015016+X016022>=1
X065066+X066067>=1	X016017+X017021>=1
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X069070+X069074>=1	X018020+X020021>=1
X069070+X070071>=1	X017021+X021021>=1
X070071+X071072>=1	X022023+X023029>=1
X062072+X071072>=1	X023024+X024059>=1
X073075+X073075+X073074>=1	X024025+X025050>=1

X025026+X026049>=1	X051058+X058060>=1
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X023029+X029030>=1	X060061+X061062+X061068>=1
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X030031+X031042>=1	X062063+X063071>=1
X030032+X032039>=1	X063064+X064065>=1
X012033+X033034>=1	X064065+X065066>=1
X010034+X034035>=1	X061066+X066067>=1
X009035+X035036>=1	X065069+X069074>=1
X008036+X036037>=1	X064070+X070071>=1
X007037+X037077>=1	X063071+X071072>=1
X001038+X038076>=1	X055072+X071072>=1
X030039+X039040>=1	X073075+X044073+X073074>=1
X031040+X040041>=1	X073074+X074076>=1
X040041+X041043>=1	X073075+X075076>=1
X041043+X043044>=1	X075076+X038076+X076077>=1
X043044+X044054+X044055>=1	X013078+X019078>=1
X043046+X046047>=1	X057079+X079080>=1
X028047+X047048>=1	X058080+X079080>=1
X027048+X048049>=1	X053081+X081082>=1
X026049+X049050>=1	X011012+X012013+X012033>=1
X025050+X050051>=1	X029030+X030031+X030032>=1
X050051+X051052+X051058>=1	X043044+X044054+X044045>=1
X051052+X052079>=1	X050051+X051052+X051059>=1
X052053+X053081>=1	X044054+X046054+X054055>=1
X044054+X046054+X054081>=1	X060061+X061062+X061066>=1
X044055+X055072>=1	X073075+X044073+X073075>=1
X056082+X056080>=1	X075076+X038076+X074076>=1
X053057+X057079>=1	

Mapa 7

Min

173.77X001002+54.46X001004+50.23X002003+86.88X002005+561.92X003012+164.6X004005
 +158.55X004008+196.59X005009+55.52X006007+154.89X006011+75.04X007008+133.5X0070
 10+56.96X008009+172.37X009010+51.04X010011+54.93X011012+66.36X012013+308.36X012
 099+53.86X013014+47.52X013037+177.74X014015+122.32X014039+167.6X015016+79.31X01
 5040+63.36X016041+54.15X016017+57.98X017018+44.43X017046+160.63X018019+43.66X01
 8047+230.36X019020+42.52X019049+190.19X020021+60.57X020052+209.48X021022+64.76X
 021031+47.75X022023+64.52X022024+150.24X023025+49.91X025026+60.1X025027+58.1X02
 6028+79.55X026029+50.64X027028+50.25X027075+99.31X028035+74.77X029030+47.9X0290
 35+61.93X030032+51.41X030034+47.44X031032+51.62X032033+171.75X032052+65.55X0330
 34+178.77X033053+73.61X034035+54.33X034072+133.88X036037+52.32X036096+104.04X03
 6100+68.19X037038+56.71X038091+124.39X038096+196.26X039040+29.74X039091+142.27X
 040041+50.02X041042+96.27X042043+314.27X042092+85.06X042043+46.52X043044+269.66
 X043093+53.32X044045+204.51X045046+58.6X045060+56.6X046047+51.79X047048+188.97X
 047059+99.61X048049+54.19X050051+190X050057+51.74X051052+197.22X051056+54.38X05
 2053+51.53X053054+108.7X054055+56.11X054065+57.32X055063+57.25X055067+51.49X056
 057+60.36X056062+177.2X057058+51.78X058059+57X059061+54.64X060061+276X060095+2
 67.56X061062+55.61X062063+116.46X063064+59.61X064068+104.63X064090+55.02X065066
 +120.39X065069+54.94X066067+119.19X066070+42.9X067068+80.03X068089+49.29X069070
 +50.82X069071+65.29X070089+18.15X071072+116.62X071087+30.38X072073+66.02X073074
 +117.67X073086+142.52X074075+52.02X074079+50.25X075076+53.02X076077+167.24X0760
 84+52.73X077078+82.65X077082+49.74X078079+75.23X078081+73.63X079080+63.94X08008
 1+60.18X080085+59.11X080086+60.76X081082+62.12X082083+67.79X083084+103.49X08308
 5+134.49X085090+46.15X086087+25.15X087088+23.37X088089+58.22X088090+29.75X09109
 2+21.52X092093+96.48X093094+184.67X093097+57.6X094095+157.24X094098+222.15X0951
 03+189.31X096097+50.19X097098+48.6X098101+39.38X099100+237.64X099102+202.49X100
 101+43X101102+56.87X102103

S.T.

X001002+X002003+X002005>=2

X001004+X004005+X004008>=2

X002005+X004005+X005009>=2	X015040+X039040+X040041>=2
X006007+X007008+X007010>=2	X016041+X040041+X041042>=2
X004008+X007008+X008009>=2	X041042+X042043+X042092+X042043>=2
X005009+X008009+X009010>=2	X042043+X042043+X043044+X043093>=2
X007010+X009010+X010011>=2	X044045+X045046+X045060>=2
X006011+X010011+X011012>=2	X017046+X045046+X046047>=2
X003012+X011012+X012013+X012099>=2	X018047+X046047+X047048+X047059>=2
X012013+X013014+X013037>=2	X050051+X051052+X051056>=2
X013014+X014015+X014039>=2	X020052+X032052+X051052+X052053>=2
X014015+X015016+X015040>=2	X033053+X052053+X053054>=2
X015016+X016041+X016017>=2	X053054+X054055+X054065>=2
X016017+X017018+X017046>=2	X054055+X055063+X055067>=2
X017018+X018019+X018047>=2	X051056+X056057+X056062>=2
X018019+X019020+X019049>=2	X050057+X056057+X057058>=2
X019020+X020021+X020052>=2	X047059+X058059+X059061>=2
X020021+X021022+X021031>=2	X045060+X060061+X060095>=2
X021022+X022023+X022024>=2	X059061+X060061+X061062>=2
X022024>=1	X056062+X061062+X062063>=2
X023025+X025026+X025027>=2	X055063+X062063+X063064>=2
X025026+X026028+X026029>=2	X063064+X064068+X064090>=2
X025027+X027028+X027075>=2	X054065+X065066+X065069>=2
X026028+X027028+X028035>=2	X065066+X066067+X066070>=2
X026029+X029030+X029035>=2	X055067+X066067+X067068>=2
X029030+X030032+X030034>=2	X064068+X067068+X068089>=2
X030032+X031032+X032033+X032052>=2	X065069+X069070+X069071>=2
X032033+X033034+X033053>=2	X066070+X069070+X070089>=2
X030034+X033034+X034035+X034072>=2	X069071+X071072+X071087>=2
X028035+X029035+X034035>=2	X034072+X071072+X072073>=2
X036037+X036096+X036100>=2	X072073+X073074+X073086>=2
X013037+X036037+X037038>=2	X073074+X074075+X074079>=2
X037038+X038091+X038096>=2	X027075+X074075+X075076>=2
X014039+X039040+X039091>=2	X075076+X076077+X076084>=2

X076077+X077078+X077082>=2	X004008+X007008>=1
X077078+X078079+X078081>=2	X005009+X008009>=1
X074079+X078079+X079080>=2	X007010+X009010>=1
X079080+X080081+X080085+X080086>=2	X006011+X010011>=1
X078081+X080081+X081082>=2	X011012+X012013+X012099>=1
X077082+X081082+X082083>=2	X012013+X013014>=1
X082083+X083084+X083085>=2	X013014+X014015>=1
X080085+X083085+X085090>=2	X014015+X015016>=1
X073086+X080086+X086087>=2	X015016+X016041>=1
X071087+X086087+X087088>=2	X016017+X017018>=1
X087088+X088089+X088090>=2	X017018+X018019>=1
X068089+X070089+X088089>=2	X018019+X019020>=1
X064090+X085090+X088090>=2	X019020+X020021>=1
X038091+X039091+X091092>=2	X020021+X021022>=1
X042092+X091092+X092093>=2	X021022+X022023>=1
X043093+X092093+X093094+X093097>=2	X022023>=1
X093094+X094095+X094098>=2	X023025+X025026>=1
X060095+X094095+X095103>=2	X025026+X026028>=1
X036096+X038096+X096097>=2	X025027+X027028>=1
X093097+X096097+X097098>=2	X026028+X027028>=1
X094098+X097098+X098101>=2	X026029+X029030>=1
X012099+X099100+X099102>=2	X029030+X030032>=1
X036100+X099100+X100101>=2	X021031>=1
X098101+X100101+X101102>=2	X031032+X032033+X032052>=1
X099102+X101102+X102103>=2	X032033+X033034>=1
X001002>=1	X033034+X034035+X034072>=1
X001002+X002003>=1	X028035+X029035>=1
X002003>=1	X036037+X036096>=1
X001004+X004005>=1	X013037+X036037>=1
X002005+X004005>=1	X037038+X038091>=1
X006007>=1	X014039+X039040>=1
X006007+X007008>=1	X015040+X039040>=1

X016041+X040041>=1	X072073+X073074>=1
X042043+X042092+X042043>=1	X073074+X074075>=1
X042043+X043044+X043093>=1	X027075+X074075>=1
X043044>=1	X075076+X076077>=1
X044045+X045046>=1	X076077+X077078>=1
X017046+X045046>=1	X077078+X078079>=1
X046047+X047048+X047059>=1	X074079+X078079>=1
X047048>=1	X080081+X080085+X080086>=1
X019049>=1	X078081+X080081>=1
X050051>=1	X077082+X081082>=1
X050051+X051052>=1	X082083+X083084>=1
X032052+X051052+X052053>=1	X076084>=1
X033053+X052053>=1	X080085+X083085>=1
X053054+X054055>=1	X073086+X080086>=1
X054055+X055063>=1	X071087+X086087>=1
X051056+X056057>=1	X087088+X088089>=1
X050057+X056057>=1	X068089+X070089>=1
X057058>=1	X064090+X085090>=1
X047059+X058059>=1	X038091+X039091>=1
X045060+X060061>=1	X042092+X091092>=1
X059061+X060061>=1	X092093+X093094+X093097>=1
X056062+X061062>=1	X093094+X094095>=1
X055063+X062063>=1	X060095+X094095>=1
X063064+X064068>=1	X036096+X038096>=1
X054065+X065066>=1	X093097+X096097>=1
X065066+X066067>=1	X094098+X097098>=1
X055067+X066067>=1	X012099+X099100>=1
X064068+X067068>=1	X036100+X099100>=1
X065069+X069070>=1	X098101+X100101>=1
X066070+X069070>=1	X099102+X101102>=1
X069071+X071072>=1	X095103>=1
X034072+X071072>=1	X001004>=1

X002003+X002005>=1	X029035+X034035>=1
X003012>=1	X036096+X036100>=1
X004005+X004008>=1	X036037+X037038>=1
X004005+X005009>=1	X038091+X038096>=1
X006011>=1	X039040+X039091>=1
X007008+X007010>=1	X039040+X040041>=1
X007008+X008009>=1	X040041+X041042>=1
X008009+X009010>=1	X041042+X042092+X042043>=1
X009010+X010011>=1	X042043+X043044+X043093>=1
X010011+X011012>=1	X044045>=1
X003012+X012013+X012099>=1	X045046+X045060>=1
X013014+X013037>=1	X045046+X046047>=1
X014015+X014039>=1	X018047+X047048+X047059>=1
X015016+X015040>=1	X048049>=1
X016041+X016017>=1	X048049>=1
X017018+X017046>=1	X050057>=1
X018019+X018047>=1	X051052+X051056>=1
X019020+X019049>=1	X020052+X051052+X052053>=1
X020021+X020052>=1	X052053+X053054>=1
X021022+X021031>=1	X054055+X054065>=1
X022023+X022024>=1	X055063+X055067>=1
X023025>=1	X056057+X056062>=1
X025026+X025027>=1	X056057+X057058>=1
X026028+X026029>=1	X058059>=1
X027028+X027075>=1	X058059+X059061>=1
X027028+X028035>=1	X060061+X060095>=1
X029030+X029035>=1	X060061+X061062>=1
X030032+X030034>=1	X061062+X062063>=1
X031032>=1	X062063+X063064>=1
X030032+X032033+X032052>=1	X064068+X064090>=1
X033034+X033053>=1	X065066+X065069>=1
X030034+X034035+X034072>=1	X066067+X066070>=1

X066067+X067068>=1	X099100+X099102>=1
X067068+X068089>=1	X099100+X100101>=1
X069070+X069071>=1	X100101+X101102>=1
X069070+X070089>=1	X101102+X102103>=1
X071072+X071087>=1	X102103>=1
X071072+X072073>=1	X001002+X002005>=1
X073074+X073086>=1	X001004+X004008>=1
X074075+X074079>=1	X002005+X005009>=1
X074075+X075076>=1	X006007+X007010>=1
X076077+X076084>=1	X004008+X008009>=1
X077078+X077082>=1	X005009+X009010>=1
X078079+X078081>=1	X007010+X010011>=1
X078079+X079080>=1	X006011+X011012>=1
X079080+X080085+X080086>=1	X003012+X011012+X012099>=1
X080081+X081082>=1	X012013+X013037>=1
X081082+X082083>=1	X013014+X014039>=1
X083084+X083085>=1	X014015+X015040>=1
X083084>=1	X015016+X016017>=1
X083085+X085090>=1	X016017+X017046>=1
X080086+X086087>=1	X017018+X018047>=1
X086087+X087088>=1	X018019+X019049>=1
X088089+X088090>=1	X019020+X020052>=1
X070089+X088089>=1	X020021+X021031>=1
X085090+X088090>=1	X021022+X022024>=1
X039091+X091092>=1	X023025+X025027>=1
X091092+X092093>=1	X025026+X026029>=1
X043093+X093094+X093097>=1	X025027+X027075>=1
X094095+X094098>=1	X026028+X028035>=1
X094095+X095103>=1	X026029+X029035>=1
X038096+X096097>=1	X029030+X030034>=1
X096097+X097098>=1	X030032+X031032+X032052>=1
X097098+X098101>=1	X032033+X033053>=1

X030034+X033034+X034072>=1	X069071+X071087>=1
X028035+X034035>=1	X034072+X072073>=1
X036037+X036100>=1	X072073+X073086>=1
X013037+X037038>=1	X073074+X074079>=1
X037038+X038096>=1	X027075+X075076>=1
X014039+X039091>=1	X075076+X076084>=1
X015040+X040041>=1	X076077+X077082>=1
X016041+X041042>=1	X077078+X078081>=1
X041042+X042043+X042043>=1	X074079+X079080>=1
X042043+X042043+X043093>=1	X079080+X080081+X080086>=1
X044045+X045060>=1	X078081+X081082>=1
X017046+X046047>=1	X077082+X082083>=1
X018047+X046047+X047059>=1	X082083+X083085>=1
X050051+X051056>=1	X080085+X085090>=1
X020052+X032052+X052053>=1	X073086+X086087>=1
X033053+X053054>=1	X071087+X087088>=1
X053054+X054065>=1	X087088+X088090>=1
X054055+X055067>=1	X068089+X088089>=1
X051056+X056062>=1	X064090+X088090>=1
X050057+X057058>=1	X038091+X091092>=1
X047059+X059061>=1	X042092+X092093>=1
X045060+X060095>=1	X043093+X092093+X093097>=1
X059061+X061062>=1	X093094+X094098>=1
X056062+X062063>=1	X060095+X095103>=1
X055063+X063064>=1	X036096+X096097>=1
X063064+X064090>=1	X093097+X097098>=1
X054065+X065069>=1	X094098+X098101>=1
X065066+X066070>=1	X012099+X099102>=1
X055067+X067068>=1	X036100+X100101>=1
X064068+X068089>=1	X098101+X101102>=1
X065069+X069071>=1	X099102+X102103>=1
X066070+X070089>=1	X003012+X011012+X012013>=1

X030032+X031032+X032033>=1

X030034+X033034+X034035>=1

X041042+X042043+X042092>=1

X042043+X042043+X043044>=1

X018047+X046047+X047048>=1

X020052+X032052+X051052>=1

X079080+X080081+X080085>=1

X043093+X092093+X093094>=1



Mapa 8

Min

60.76X001002+125.41X001003+36.58X002016+136.94X002011+94.05X003004+50.44X003010
 +100.37X004009+112X004005+47.32X005006+65.86X005007+63.82X006008+55.54X006014+8
 9.93X007008+57.48X008138+40.88X009013+129.85X009014+107.9X010013+60.08X010011+1
 48.93X011012+79.07X012013+80.58X012015+59.12X014015+125.84X015016+102.74X016017
 +54.35X017018+107.21X017024+52.25X018030+95.35X019020+62.92X019045+45.13X020046
 +111.6X021022+51.73X021026+213.08X022023+150.32X023088+38.68X023092+40.81X02402
 5+46.56X025031+141.18X025035+44.95X026039+70.3X027028+87.84X028029+42.96X028030
 +174.54X029045+72.9X029049+56.86X030031+82.82X031032+108.4X032035+238.41X033034
 +80.68X033049+118.33X034050+82.09X034068+49.57X035044+58.84X035036+167.9X036037
 +52.73X036043+87.3X037038+552.17X037042+162.71X038039+35.13X038041+233X039040+7
 0.14X040041+63.78X040081+160.29X041080+71.07X041042+123.87X042078+167.74X042043
 +59.71X043044+62.09X043078+65.85X044076+57.05X045046+77.15X046047+55.74X047048+
 57.48X047052+43.47X048051+47.32X048049+62.92X050068+53.29X050133+92.68X051052+4
 7.03X051054+59.9X052053+53.39X053055+113.95X053058+51.25X054055+59.9X054066+108.
 05X055056+58.98X055065+64.29X055065+112.94X056057+64.93X056061+57.71X057059+68.
 25X057060+60.76X058059+56.47X059073+194.7X060061+58.56X060070+185.22X061062+70.
 3X062065+58.42X065066+70.73X066067+51.88X066071+43.09X067133+54.35X067072+115.4
 3X068069+58.61X069074+50.17X070071+48.79X071072+207.97X072073+119.15X073074+50.
 17X074076+93.29X076079+59.9X077078+40.88X078079+58.6X078080+52.51X079082+44.09X
 080081+50.17X080082+98.5X081085+103.45X081083+175.56X082083+58.42X083084+76.86X
 084101+40.81X084103+65.18X085086+191.61X085101+70.95X086087+125.45X086100+44.46
 X087088+56.52X087095+52.51X088089+48.17X089090+116.98X089095+51.73X090096+61.34
 X090091+42.9X091093+120.94X091097+168.27X092094+139.35X092093+251.13X093098+48.
 17X094111+38.33X095100+33.05X095096+113.06X096097+138.85X097098+37.75X098099+14
 1.17X099100+150.75X099102+138.09X100101+62.92X101102+55.74X102103+54.48X102105+
 158.74X103104+117.98X104105+102.47X104132+73.19X105106+61.16X105111+285.87X1061
 34+211.88X106131+219.57X107134+56.08X107109+85.38X108131+194.4X108113+155.09X10
 9110+134.12X109113+152.86X110112+56.28X110117+58.56X111112+53.29X112116+165.38X

113114+53.39X114115+58.61X114135+52.25X115131+112.94X115122+81.12X116117+114.95
X116118+54.35X117135+57.64X117119+56.9X118119+64.29X119120+232.42X120121+351.63
X120124+177.42X121122+145.29X121135+151.62X122123+53.34X123126+202.87X123124+44
.09X124125+128.61X125129+121.51X125130+131.94X126127+151.53X126129+75.5X127128+
48.17X127136+60.75X128129+50.33X128131+106.42X130132+36.28X131137+56.52X131132
S.T.

X001002+X002016+X002011>=2	X037038+X038039+X038041>=2
X001003+X003004+X003010>=2	X026039+X038039+X039040>=2
X003004+X004009+X004005>=2	X039040+X040041+X040081>=2
X004005+X005006+X005007>=2	X038041+X040041+X041080+X041042>=2
X005006+X006008+X006014>=2	X037042+X041042+X042078+X042043>=2
X006008+X007008+X008138>=2	X036043+X042043+X043044+X043078>=2
X004009+X009013+X009014>=2	X035044+X043044+X044076>=2
X003010+X010013+X010011>=2	X019045+X029045+X045046>=2
X002011+X010011+X011012>=2	X020046+X045046+X046047>=2
X011012+X012013+X012015>=2	X046047+X047048+X047052>=2
X009013+X010013+X012013>=2	X047048+X048051+X048049>=2
X006014+X009014+X014015>=2	X029049+X033049+X048049>=2
X012015+X014015+X015016>=2	X034050+X050068+X050133>=2
X002016+X015016+X016017>=2	X048051+X051052+X051054>=2
X016017+X017018+X017024>=2	X047052+X051052+X052053>=2
X022023+X023088+X023092>=2	X052053+X053055+X053058>=2
X024025+X025031+X025035>=2	X051054+X054055+X054066>=2
X027028>=1	X053055+X054055+X055056+X055065+X05 5065>=2
X027028+X028029+X028030>=2	X055056+X056057+X056061>=2
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X018030+X028030+X030031>=2	X057059+X058059+X059073>=2
X025031+X030031+X031032>=2	X057060+X060061+X060070>=2
X033034+X034050+X034068>=2	X056061+X060061+X061062>=2
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X035036+X036037+X036043>=2	X054066+X065066+X066067+X066071>=2
X036037+X037038+X037042>=2	

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X066071+X070071+X071072>=2	X103104+X104105+X104132>=2
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X040081+X080081+X081085+X081083>=2	X114115+X115131+X115122>=2
X079082+X080082+X082083>=2	X112116+X116117+X116118>=2
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Mapa 9

Min

52.85X001002+261.08X001136+126.41X002003+181.66X002098+49.82X003096+93.7X003004
+49.43X004094+52.06X004005+98.65X005093+102.3X006092+52.06X006007+48.17X007090+
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012071+134.67X012013+91.21X013014+80.92X013070+86.51X014056+55.52X014015+141.03
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X021029+153.72X022023+58X022138+51.31X023024+65.09X023025+205.48X024034+87.37X0
25026+162.63X025138+49.7X026033+188.88X026027+49.9X027028+76.17X027138+40.52X02
8029+211.79X028033+48.5X030031+91.14X030051+121.76X030052+95.37X031049+67.77X03
1050+34.5X032139+202.22X032044+51.94X033034+55.89X034035+66.81X035036+35.15X036
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0+26.03X057140+148.58X057060+68.97X057069+56.3X058059+53.48X059060+59.31X060141
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+61.16X065066+156.66X065110+66.51X066067+153.96X066075+100.34X066109+43.83X0671
41+105.11X067068+32.9X068069+93.74X068075+93.37X069074+58.68X069070+142.65X0700
72+23.05X071072+130.63X071081+31.23X072073+54.48X073074+81.3X073142+43.04X07407
5+50.45X075076+54.1X076077+109.08X076079+43.9X077078+127.1X077107+119.67X077109
+47.81X078079+60.15X078083+42.06X079142+56.1X080081+122.94X080083+42.23X080142+
52.36X082088+112.03X082084+60.92X083084+190X084085+55.91X084107+49.64X085086+62
.32X085105+89.17X086102+194.05X086087+40.75X087088+183.76X087101+50.81X088089+8
2.79X088091+81.16X089090+51.48X090091+49.17X091092+54.86X092093+51.39X093101+36.
11X094095+214X094100+51.48X095096+170.2X095099+52.73X096097+49.37X097098+108.61
X097099+181.32X098103+48.81X099100+67.55X100102+70.7X101102+52.98X102103+188.85
X103104+50.91X104105+108.73X104124+135.08X105106+60.62X105135+52.32X106107+63.2

3X106134+126.37X107108+56.46X108132+131.34X108133+117.6X108109+49.14X110111+51.74X110133+57.25X111112+50.51X112113+49.9X113114+131.27X114115+43.11X115116+42.97X116117+198.09X117118+60.52X118119+71.68X118120+143.02X119123+54.34X120121+234.74X120143+133.82X121143+54.37X121122+53.04X122123+50.19X122128+231.28X123124+52.74X124125+55.31X125126+132.79X125132+61.41X126127+123.39X126131+53.58X127128+119.78X127130+128.29X128129+101.52X129143+54.37X129130+57.74X130131+58.53X131132+62.83X132134+130.42X134135+53.98X136137

S.T.

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X002003+X003096+X003004>=2
X003004+X004094+X004005>=2
X006007+X007090+X007008>=2
X007008+X008009+X008089>=2
X011012+X012071+X012013>=2
X012013+X013014+X013070>=2
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X020021+X021022+X021029>=2
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X030031+X030051+X030052>=2
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X024034+X033034+X034035>=2
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X036037+X037038+X037041>=2
X037038+X038039+X038139>=2
X038039+X039043+X039042>=2
X036040+X040041+X040117>=2
X037041+X040041+X041042>=2
X039042+X041042+X042061>=2
X043047+X045047+X047061>=2
X031049+X048049+X049050>=2
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X046062+X061062+X062063>=2

X062063+X063064+X063141>=2	X096097+X097098+X097099>=2
X063064+X064065+X064111>=2	X002098+X097098+X098103>=2
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X013070+X056070+X069070+X070072>=2	X103104+X104105+X104124>=2
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Mapa 10

Min

67.93X001002+263.75X001003+131.88X002004+55.54X004005+57.29X005006+74.26X003007
 +51.62X006007+43.65X004008+42.9X008009+152.75X009010+60.62X010011+211.41X011012
 +48.17X012013+281.24X005014+55.4X011014+268.57X006015+49.13X014015+255.12X00701
 6+61.4X015016+371.31X013017+54.35X016017+286.43X003018+213.35X018019+69X019020+
 53.74X020021+63.57X018022+112.41X021023+54.5X022023+52.51X021024+376.69X020025+
 61.34X016026+47.03X025027+91.13X026027+71.59X017028+46.03X027029+86.84X028029+7
 3.15X029030+48.17X030031+104.63X024032+171.39X027032+48.17X031033+56.47X032033+
 55.4X028034+51.25X034035+61.69X035036+187.32X017037+57.71X036037+51.25X037038+2
 01.73X038039+60.62X039040+43.9X039041+40.81X038042+198.62X041042+33.46X042043+3
 6.58X043044+35.67X044045+39.17X041046+209X043046+206.91X044047+37.68X046047+30.
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 .92X048050+59.57X030051+53.39X034051+155.88X035052+54.35X051052+150.5X036053+57.
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 8X055056+34.74X048057+71.09X049057+13.63X056057+77.25X057058+40.81X058059+72.37
 X056060+49.95X059060+86.71X055061+52.72X060061+122.27X054062+126.48X061062+64.9
 2X053063+174.63X033064+59.11X063064+74.26X064065+14.78X065066+62.7X066067+50.55
 X067068+56.47X033069+50.33X068070+44.09X069070+40.03X069071+44.89X023072+152.8X
 072073+56.47X073074+48.79X071075+46.03X074075+29.92X072076+59.85X076077+200.48X
 022078+172.35X078079+43.09X079080+50.56X077081+46.73X078081+57.83X081082+188.84
 X082083+39.54X079084+79.58X083084+36.5X073085+159.72X076085+171.58X077086+39.93
 X085086+188.84X081087+102.5X086087+186.22X082088+48.12X087088+50.33X088089+110.
 8X083090+57.81X089090+129X084091+118.23X090091+125.83X089092+56.47X091092+332.1
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7X019203

S.T.

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X077081+X081082+X081087>=1	X113114+X113122>=1
X082083+X082088>=1	X113114+X114121>=1
X083084+X083090>=1	X115116+X115118>=1
X083084+X084091>=1	X115116+X116118+X116119>=1
X076085+X085086>=1	X062117+X066117+X116117>=1
X085086+X086087>=1	X116118+X118120>=1
X086087+X087088>=1	X119120+X119126>=1
X082088+X088089+X088095>=1	X118120+X120121+X120127>=1
X089090+X089092>=1	X120121+X121122>=1
X089090+X090091>=1	X121122+X122123>=1
X090091+X091092>=1	X122123+X123129>=1
X089092+X092093+X092094>=1	X061124+X124125+X124193>=1
X092093+X093130>=1	X124125+X125190+X125192>=1
X094097>=1	X125126+X126127>=1
X088095+X095096>=1	X120127+X127128+X127189>=1
X075096+X096097+X096098>=1	X128129+X128188>=1
X096097+X097100>=1	X123129+X129179+X129187>=1
X098099+X098100>=1	X093130+X110130+X130131>=1
X070099+X099101+X099102>=1	X131132>=1
X098100+X100101>=1	X132133+X132145>=1
X099101+X101103+X101130>=1	X133134+X133137>=1
X068102+X102103+X102105>=1	X134135+X134143>=1
X102103+X103104>=1	X135136+X135142>=1
X104109>=1	X136138+X136141>=1
X102105+X105108>=1	X137138>=1
X106107+X106115>=1	X137138+X138139>=1
X107108+X107114>=1	X139140>=1
X107108+X108109>=1	X140141+X140149>=1
X104109+X109110+X109112>=1	X140141+X141142>=1
X110111+X110130>=1	X135142+X142143+X142151>=1

X142143+X143144>=1	X177178+X177180>=1
X144145+X144148>=1	X178179+X178181>=1
X144145+X145146>=1	X111179+X153179+X178179>=1
X145146+X146147>=1	X177180+X180181>=1
X147148+X147153>=1	X180181+X181182>=1
X147148+X148152>=1	X181182+X182183>=1
X149150>=1	X182183+X183184>=1
X150154>=1	X184185+X184202>=1
X142151+X151154+X151156>=1	X185186+X185187>=1
X148152+X152153+X152158>=1	X186188+X186202>=1
X152153+X153179>=1	X185187+X187188>=1
X151154+X154155>=1	X128188+X187188+X188189>=1
X155156+X155161>=1	X127189+X189190+X189199>=1
X151156+X156157+X156160>=1	X125190+X189190+X190191>=1
X158176+X158177>=1	X191192+X191197>=1
X160161>=1	X191192+X192193>=1
X160161+X161162>=1	X192193+X193194>=1
X162163+X162176>=1	X194195>=1
X163164+X163175>=1	X058195+X195196+X195198>=1
X164165+X164174>=1	X195196+X196200>=1
X165166+X165173>=1	X197198>=1
X166167+X166172>=1	X195198+X198199+X198200>=1
X167168+X167170>=1	X198199+X199201>=1
X168169+X168170>=1	X198200+X200201>=1
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X170172>=1	X001003+X003018>=1
X173174>=1	X002004+X004008>=1
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X174175+X175176>=1	X005006+X006015>=1
X158176+X162176+X175176>=1	X003007+X007016>=1

X010011+X011014>=1	X040050+X050196>=1
X005014+X014015>=1	X030051+X051052>=1
X006015+X015016>=1	X035052+X052053>=1
X007016+X015016+X016026>=1	X036053+X052053+X053054>=1
X013017+X016017+X017037>=1	X053054+X045054+X054055>=1
X003018+X018022>=1	X054055+X055061>=1
X018019+X019020+X019203>=1	X049056+X055056+X056060>=1
X019020+X020025>=1	X048057+X049057+X057058>=1
X020021+X021024>=1	X057058+X058195>=1
X018022+X022078>=1	X056060+X060061>=1
X021023+X023072>=1	X055061+X060061+X061124>=1
X025027+X026027+X027032>=1	X054062+X062117>=1
X017028+X028034>=1	X033064+X064065>=1
X027029+X029030>=1	X064065+X065117>=1
X029030+X030051>=1	X065066+X066067+X066117>=1
X024032+X032033>=1	X066067+X067105>=1
X031033+X032033+X033069>=1	X067068+X068102>=1
X028034+X034051>=1	X033069+X069071>=1
X034035+X035052>=1	X068070+X070099>=1
X035036+X036053>=1	X023072+X072076>=1
X017037+X037038>=1	X072073+X073085>=1
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X038039+X039041>=1	X071075+X075096>=1
X039041+X041046>=1	X072076+X076085>=1
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X042043+X043046>=1	X022078+X078081>=1
X043044+X044047>=1	X078079+X079084>=1
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X041046+X043046+X046048>=1	X081082+X082088>=1
X044047+X046047+X047049>=1	X082083+X083090>=1
X046048+X047048+X048050>=1	X079084+X084091>=1
X045049+X047049+X049056>=1	X073085+X085086>=1

X077086+X086087>=1	X118120+X119120+X120127>=1
X081087+X087088>=1	X114121+X121122>=1
X082088+X087088+X088095>=1	X113122+X122123>=1
X088089+X089092>=1	X112123+X123129>=1
X083090+X090091>=1	X061124+X117124+X124193>=1
X084091+X091092>=1	X124125+X125126+X125192>=1
X089092+X091092+X092094>=1	X119126+X126127>=1
X080093+X093130>=1	X120127+X126127+X127189>=1
X074095+X095096>=1	X127128+X128188>=1
X075096+X095096+X096098>=1	X123129+X128129+X129187>=1
X094097+X097100>=1	X093130+X101130+X130131>=1
X096098+X098100>=1	X131132+X132145>=1
X070099+X098099+X099102>=1	X132133+X133137>=1
X097100+X100101>=1	X133134+X134143>=1
X099101+X100101+X101130>=1	X134135+X135142>=1
X068102+X099102+X102105>=1	X135136+X136141>=1
X101103+X103104>=1	X136138+X138139>=1
X067105+X105108>=1	X139140+X140149>=1
X066106+X106115>=1	X136141+X141142>=1
X106107+X107114>=1	X135142+X141142+X142151>=1
X105108+X108109>=1	X134143+X143144>=1
X104109+X108109+X109112>=1	X143144+X144148>=1
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X110111+X111179>=1	X111146+X146147>=1
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X112113+X113122>=1	X144148+X148152>=1
X107114+X114121>=1	X142151+X151152+X151156>=1
X106115+X115118>=1	X148152+X151152+X152158>=1
X115116+X116117+X116119>=1	X147153+X153179>=1
X062117+X065117+X116117>=1	X150154+X154155>=1
X115118+X118120>=1	X154155+X155161>=1
X116119+X119126>=1	

X151156+X155156+X156160>=1	X058195+X194195+X195198>=1
X152158+X158177>=1	X050196+X196200>=1
X155161+X161162>=1	X195198+X197198+X198200>=1
X161162+X162176>=1	X189199+X199201>=1
X162163+X163175>=1	X196200+X200201>=1
X163164+X164174>=1	X199201+X201202>=1
X164165+X165173>=1	X184202+X201202>=1
X165166+X166172>=1	X007016+X015016+X016017>=1
X166167+X167170>=1	X013017+X016017+X017028>=1
X167168+X168170>=1	X018019+X019020+X019203>=1
X168169+X169170+X169183>=1	X025027+X026027+X027029>=1
X167170+X168170+X170172>=1	X031033+X032033+X033064>=1
X164174+X174175>=1	X041046+X043046+X046047>=1
X163175+X175176>=1	X044047+X046047+X047048>=1
X158176+X159176+X175176>=1	X046048+X047048+X048049>=1
X158177+X177180>=1	X045049+X047049+X048049>=1
X177178+X178181>=1	X036053+X052053+X053054>=1
X111179+X129179+X178179>=1	X053054+X045054+X053054>=1
X171180+X180181>=1	X049056+X055056+X056057>=1
X178181+X181182>=1	X048057+X049057+X056057>=1
X179182+X182183>=1	X055061+X060061+X061062>=1
X169183+X183184>=1	X065066+X066067+X066106>=1
X183184+X184202>=1	X077081+X078081+X081082>=1
X184185+X185187>=1	X082088+X087088+X088089>=1
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X127189+X188189+X189199>=1	X099101+X100101+X101103>=1
X125190+X127190+X190191>=1	X068102+X099102+X102103>=1
X190191+X191197>=1	X104109+X108109+X109110>=1
X125192+X192193>=1	X115116+X116117+X116118>=1
X124193+X193194>=1	X062117+X065117+X066117>=1

$X118120+X119120+X120121 \geq 1$
 $X061124+X117124+X124125 \geq 1$
 $X124125+X125126+X125190 \geq 1$
 $X120127+X126127+X127128 \geq 1$
 $X123129+X128129+X129179 \geq 1$
 $X093130+X101130+X110130 \geq 1$
 $X135142+X141142+X142143 \geq 1$
 $X142151+X151152+X151154 \geq 1$
 $X148152+X151152+X152153 \geq 1$
 $X151156+X155156+X156157 \geq 1$

$X168169+X169170+X169171 \geq 1$
 $X167170+X168170+X169170 \geq 1$
 $X158176+X159176+X162176 \geq 1$
 $X111179+X129179+X153179 \geq 1$
 $X128188+X186188+X187188 \geq 1$
 $X127189+X188189+X189190 \geq 1$
 $X125190+X127190+X189190 \geq 1$
 $X058195+X194195+X195196 \geq 1$
 $X195198+X197198+X198199 \geq 1$



Mapa 11

Min

163.307X001002+52.7366X001004+61.4X002003+62.3158X002005+76.1642X003006+142.639
 X004005+50.0486X004009+56.1882X005008+172.411X006007+57.6746X007010+181.824X007
 011+30.775X008010+128.673X008009+182.444X009013+130.888X010012+161.738X010012+5
 2.8973X011012+166.703X011020+126.231X012013+51.5248X012015+44.7785X013014+115.2
 13X014015+58.9852X014016+48.2554X015017+116.813X016017+52.7813X016018+52.7811X0
 17019+114.5X018019+55.5162X018021+60.7968X019020+49.2908X020022+174.183X021022+
 50.5758X021023+50.4539X022025+107.236X023024+139.383X023026+62.6215X024025+239.
 383X024026+184.625X025028+66.8494X026027+122.311X027033+194.476X027028+95.6655X
 028043+63.3582X028044+156.28X029048+50.2512X029030+75.9766X029051+25.6232X03003
 1+60.8535X030052+69.0889X031032+80.749X031053+39.5333X032033+90.3311X032054+31.
 7386X033034+256.099X034035+105.434X035048+96.2564X036055+35.9908X036037+100.807
 X037056+34.3808X038039+39.2733X037038+36.274X039040+105.562X039058+37.5498X0400
 41+36.6856X040043+33.901X041042+70.3414X041045+64.638X042046+38.8363X042213+40.
 9074X042043+111.27X043044+130.207X044069+34.0617X045046+59.8693X045066+37.4588X
 045058+61.0321X046067+37.5497X046047+58.6018X047068+71.4208X048049+116.745X0490
 70+63.5636X049050+76.545X050051+190.884X050070+249.6X051071+66.635X052059+25.72
 95X052053+36.2178X053054+64.5223X053060+31.6309X054055+49.767X054061+59.8696X05
 5062+33.0449X055056+41.0408X056057+59.8695X056063+32.7335X057058+60.8531X057064
 +57.4375X058065+32.7962X059060+155.006X059076+56.0794X060077+34.0619X060061+38.
 8365X061062+60.3126X061078+35.2242X062063+62.4583X062079+38.625X063064+62.1954X
 063080+39.8768X064065+61.4669X064081+37.3858X065066+39.8767X066067+61.4667X0660
 83+37.6767X067068+56.3821X067084+52.7809X068069+55.2201X068085+61.0319X069086+1
 18.001X070074+28.7724X071075+20.5205X071072+49.1562X072073+55.335X072105+67.674
 4X073074+122.095X073108+117.681X074109+33.5471X075096+77.6051X075214+64.472X076
 077+36.293X076087+37.9747X077078+62.0967X078087+36.518X078079+65.9346X079088+37
 .6769X079080+67.8853X080089+36.8759X080081+42.1604X081082+66.9029X081090+31.506
 4X082083+64.4266X082091+64.5218X083092+34.1267X083084+65.8643X084093+36.335X084
 085+64.5772X085094+51.5677X085086+66.3274X086095+59.0114X087097+35.0932X087088+

57.8786X088098+36.9683X088089+110.592X089116+38.0822X089090+63.9963X090099+42.4
628X090091+35.1707X091092+63.844X091100+37.4587X092093+60.3489X092101+34.0065X0
93094+61.436X093102+51.5246X094095+53.2612X094103+63.4765X095104+50.2605X096111
+31.7386X096097+52.6908X097112+37.4043X097098+48.1282X098114+39.9964X099100+48.
0287X099118+32.7334X100101+50.5757X100122+42.4627X101102+51.6174X101128+37.4587
X102103+50.454X102129+58.4618X103104+50.4539X103130+46.9651X104131+41.7009X1051
06+29.3012X105214+24.6457X106107+50.2919X106110+73.6411X107108+79.9934X107133+7
1.3059X108109+75.6799X109132+37.4043X110113+110.219X110135+28.2577X111112+38.83
65X112114+116.04X113137+29.3011X114217+38.625X114116+30.5776X115117+57.3544X116
117+45.6987X116118+124.506X117139+47.0961X117119+44.5338X118122+33.4246X119120+
51.9475X119123+41.9698X120121+55.8012X120124+49.9306X121140+34.0066X121125+49.3
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77.4138X127144+49.0591X127219+35.835X128129+33.9826X129130+52.7809X130131+115.6
12X131219+169.999X132133+66.5893X132146+36.8066X133134+55.8658X133148+68.767X13
4149+15.8155X134135+12.2812X135136+93.7069X136149+22.9016X136137+39.1777X137138
+28.0638X138139+46.736X139140+110.269X140153+37.9745X140141+24.6454X141142+77.9
116X142154+72.4349X142143+20.44536X143144+68.5476X144155+52.0419X144145+100.908
X145158+296.768X146186+66.6388X146147+119.822X147148+84.5177X147183+107.48X1481
84+90.1778X149150+33.3482X150151+35.1272X150172+105.563X151171+37.3905X151152+3
8.6647X152153+128.517X152170+31.3109X153168+50.9855X154156+91.7212X154155+34.64
27X155221+59.8066X156168+39.2948X157161+36.968X158162+72.8319X159166+77.4812X15
9169+38.7703X159160+120.212X160164+17.1008X160161+69.0188X161162+119.858X162163
+78.5395X163164+120.846X163203+39.8295X164165+42.0751X164182+38.1313X165166+40.
5134X165179+82.0813X166167+38.0822X167170+37.4269X167178+63.9415X167169+37.7537
X168169+36.0192X170175+35.71X171173+29.9974X171175+69.3474X172173+100.812X17217
4+38.5941X173174+140.054X173195+40.891X174190+31.6793X175176+35.6334X176177+78.
59X176196+36.8063X177178+75.2834X177197+46.8635X178179+106.736X178199+41.0946X1
79180+65.2187X180198+39.2079X180181+66.752X181201+32.7594X181182+77.5404X182202
+143.608X183184+53.2327X183185+58.8348X184190+162912X185190+47.2557X185187+70.3
424X186189+543.697X186207+185.218X187191+52.0526X187188+203.596X188192+60.313X1
88189+217.809X189194+156.705X189211+53.6185X190191+59.5726X191192+34.9568X19219

3+26.313X193194+62.1955X193195+117.932X194210+37.0973X195196+36.4477X196197+39.3615X198199+42.8295X198201+107.109X198200+65.9343X199200+68.5951X200205+31.7383X201202+87.7801X202203+117.356X203204+203.729X204205+406.216X204206+189.913X205206+147.066X206207+59.6898X207208+209.422X208212+57.5249X208209+179X209212+58.9072X209210+211.646X210211+61.8098X211212+66.7571X047213+55.5159X044213+29.5794X214215+28.1367X111215+37.55X215216+42.3181X113216+36.293X216217+37.8396X115217+37.4996X127218+83.6422X145219+32.3392X156220+45.6574X159220+55.1614X157220+18.7748X157221+41.5774X158221

S.T.

X001002>=1	X023024+X024025>=1
X001002+X002003>=1	X022025+X024025>=1
X002003>=1	X023026+X024026>=1
X001004+X004005>=1	X026027+X027033>=1
X002005+X004005>=1	X027028+X028043+X028044>=1
X003006>=1	X029048+X029030>=1
X006007+X007010>=1	X029030+X030031>=1
X005008+X008010>=1	X030031+X031032>=1
X004009+X008009>=1	X031032+X032033>=1
X008010+X010012+X010012>=1	X027033+X032033>=1
X007011+X011012>=1	X033034>=1
X010012+X011012+X012013>=1	X034035>=1
X009013+X012013>=1	X036055>=1
X013014+X014015>=1	X036037+X037056>=1
X012015+X014015>=1	X038039>=1
X014016+X016017>=1	X038039+X039040>=1
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X011020+X019020>=1	X040043+X042043+X043044>=1
X018021+X021022>=1	X043044+X044069+X044213>=1
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X030052+X052059>=1	X083084+X084093+X084085>=1
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X094103+X102103+X103104>=1
X098114+X112114+X114217>=1
X089116+X114116+X116117>=1
X115117+X116117+X117139>=1
X120121+X121140+X121125>=1
X100122+X118122+X122123>=1
X119123+X122123+X122123>=1
X120124+X123124+X124125>=1
X121125+X124125+X125141>=1
X107133+X132133+X133134>=1
X121140+X121140+X139140>=1
X127144+X143144+X144155>=1
X159166+X159169+X159160>=1
X160164+X163164+X164165>=1
X166167+X167170+X167178>=1
X171173+X172173+X173174>=1
X167178+X177178+X178179>=1
X186189+X188189+X189194>=1
X174190+X184190+X185190>=1
X180198+X198199+X198201>=1
X124219+X127219+X131219>=1

Mapa 12

Min

182.722X001002+125.109X001011+194.499X002003+79.5214X002010+166.721X003004+80.4
 763X003008+83.0878X004005+52.2472X005006+48.0702X005021+54.3598X006007+175.936X
 006020+51.7354X007008+149.431X007019+176.075X008009+49.635X008016+53.2952X00901
 0+51.2054X009014+59.766X010013+91.8732X011012+74.9991X011041+69.9126X012013+60.
 8525X012038+50.5752X013032+74.2211X013014+55.9927X014015+52.7804X014031+52.7803
 X015026+124.366X015016+50.5076X016017+41.9721X017018+118.228X017026+61.6541X018
 028+52.793X018019+44.64X019020+47.9565X020025+53.0379X020024+30.8435X021022+46.
 9207X022023+74.0411X023024+146.182X025029+44.4871X026027+55.9072X027030+54.4603
 X027028+49.1236X028029+52.3126X029030+40.2848X030034+44.4871X030035+89.8675X031
 032+49.8733X031033+75.5473X032038+54.5482X032044+110.247X033044+48.9149X033034+
 135.386X034045+53.2821X035036+121.704X035062+54.9221X036037+91.4928X036061+67.9
 219X037046+69.0182X037048+49.2905X038039+50.9565X038040+55.2021X039040+52.4389X
 039043+78.7701X039044+64.9937X040041+79.3268X041042+90.4433X042043+92.1265X0420
 50+80.8765X043045+50.7074X044045+51.9275X045046+45.0674X046047+62.1299X047048+9
 7.3335X047049+47.6302X048054+92.274X049050+49.1735X049052+48.5407X050051+91.895
 9X051052+147.987X051068+28.0634X052053+129.512X053054+52.755X053055+52.4187X054
 060+52.625X054056+127.223X055056+135.757X055057+52.4407X056058+42.4722X057058+1
 09.99X057064+70.6426X058064+50.3391X058059+105.529X059060+35.8345X059164+47.056
 3X060061+63.521X060163+40.4844X061062+43.2335X062063+191.564X029063+50.3502X063
 163+52.8482X064065+60.2235X065067+50.8976X066067+65.1104X067072+175.364X068069+
 228.412X068070+378.163X068080+51.8807X069070+131.844X069079+38.8598X070071+112.
 454X070078+62.0956X071075+154.003X071072+52.2782X072074+84.7792X072073+133.501X
 073086+167.62X073095+51.112X074085+313.383X074077+59.6859X075076+25.9673X076077
 +20.7434X077078+28.1908X078079+139.093X079081+106.252X080081+135.443X080104+27.
 4798X081082+130.634X082106+47.2545X082083+131.017X083107+85.4132X083084+49.7381
 X084102+162.39X084085+58.3587X085097+108.501X086095+50.1441X086087+52.7215X0870
 88+54.853X087094+97.5717X088089+52.4585X089091+64.6308X089090+122.929X090118+44
 .8569X091092+69.7253X091117+148.572X092116+57.2484X092093+46.1912X093094+109.12

1X093114+130.087X094113+50.5003X095096+90.7846X096097+48.4696X096113+51.7123X097098+55.3488X098099+107.711X098102+52.7316X099100+178.828X099125+49.9946X100101+54.6791X101102+103.53X101112+51.297X102103+111.181X103109+162.519X103111+96.9669X104105+138.57X104150+22.9682X105106+138.935X105151+48.8719X106107+30.5771X107108+50.575X108110+108.522X108153+42.7425X109110+114.093X109111+98.1222X110146+49.6664X111146+57.3691X111112+130.651X112128+50.6352X113115+45.5553X114115+80.556X114116+34.6961X115124+50.1848X116122+62.9621X117118+105.644X117122+134.655X118119+81.6476X119122+48.5922X119120+99.5991X120121+194.273X120138+48.413X121164+53.4765X121123+56.3262X123124+106.251X123127+53.4766X124125+49.8131X125126+177.438X100126+51.6724X126127+54.6787X127128+61.1849X128129+57.4273X129130+52.247X129131+139.065X130145+54.8532X130132+125.514X131133+139.231X131164+53.6964X132135+123.508X132134+56.1805X133134+157.13X133164+52.2467X134138+86.5256X135136+122.258X135137+56.6706X136145+123.02X136140+83.9371X137140+53.8737X137139+55.5144X138139+138.963X139142+55.6036X140141+53.7819X141142+282.257X142144+77.7434X143144+52.822X143145+133.502X143162+134.079X144161+135.235X145163+52.7219X146147+88.0586X147149+60.4044X147156+51.1552X110149+58.1246X149154+96.3755X150151+128.461X150157+28.6768X151152+166.489X152159+47.546X152153+51.035X153154+55.2843X153155+73.1114X154156+108.138X148155+56.0108X148156+83.1184X157158+128.006X157159+119.822X158160+98.4695X159160+82.103X160161+97.2192X161162+148.631X066163+50.1361X065164+63.9664X066164

S.T.

X001002+X002003+X002010>=2	X009014+X013014+X014015+X014031>=2
X002003+X003004+X003008>=2	X014015+X015026+X015016>=2
X004005+X005006+X005021>=2	X008016+X015016+X016017>=2
X005006+X006007+X006020>=2	X016017+X017018+X017026>=2
X006007+X007008+X007019>=2	X017018+X018028+X018019>=2
X003008+X007008+X008009+X008016>=2	X007019+X018019+X019020>=2
X008009+X009010+X009014>=2	X006020+X019020+X020025+X020024>=2
X002010+X009010+X010013>=2	X015026+X017026+X026027>=2
X001011+X011012+X011041>=2	X026027+X027030+X027028>=2
X011012+X012013+X012038>=2	X018028+X027028+X028029>=2
X010013+X012013+X013032+X013014>=2	X025029+X028029+X029030+X029063>=2

X027030+X029030+X030034+X030035>=2	X035062+X061062+X062063>=2
X014031+X031032+X031033>=2	X062063+X029063+X063163>=2
X013032+X031032+X032038+X032044>=2	X057064+X058064+X064065>=2
X031033+X033044+X033034>=2	X064065+X065067+X065164>=2
X030034+X033034+X034045>=2	X066067+X066163+X066164>=2
X030035+X035036+X035062>=2	X065067+X066067+X067072>=2
X035036+X036037+X036061>=2	X051068+X068069+X068070+X068080>=2
X036037+X037046+X037048>=2	X068069+X069070+X069079>=2
X012038+X032038+X038039+X038040>=2	X068070+X069070+X070071+X070078>=2
X038039+X039040+X039043+X039044>=2	X070071+X071075+X071072>=2
X038040+X039040+X040041>=2	X067072+X071072+X072074+X072073>=2
X011041+X040041+X041042>=2	X072073+X073086+X073095>=2
X041042+X042043+X042050>=2	X072074+X074085+X074077>=2
X039043+X042043+X043045>=2	X074077+X076077+X077078>=2
X032044+X033044+X039044+X044045>=2	X070078+X077078+X078079>=2
X034045+X043045+X044045+X045046>=2	X069079+X078079+X079081>=2
X037046+X045046+X046047>=2	X068080+X080081+X080104>=2
X046047+X047048+X047049>=2	X079081+X080081+X081082>=2
X037048+X047048+X048054>=2	X081082+X082106+X082083>=2
X047049+X049050+X049052>=2	X082083+X083107+X083084>=2
X042050+X049050+X050051>=2	X083084+X084102+X084085>=2
X050051+X051052+X051068>=2	X074085+X084085+X085097>=2
X049052+X051052+X052053>=2	X073086+X086095+X086087>=2
X052053+X053054+X053055>=2	X086087+X087088+X087094>=2
X048054+X053054+X054060+X054056>=2	X088089+X089091+X089090>=2
X053055+X055056+X055057>=2	X089091+X091092+X091117>=2
X054056+X055056+X056058>=2	X091092+X092116+X092093>=2
X055057+X057058+X057064>=2	X092093+X093094+X093114>=2
X056058+X057058+X058064+X058059>=2	X087094+X093094+X094113>=2
X058059+X059060+X059164>=2	X073095+X086095+X095096>=2
X054060+X059060+X060061+X060163>=2	X095096+X096097+X096113>=2
X036061+X060061+X061062>=2	X085097+X096097+X097098>=2

X097098+X098099+X098102>=2	X129130+X130145+X130132>=2
X098099+X099100+X099125>=2	X129131+X131133+X131164>=2
X099100+X100101+X100126>=2	X130132+X132135+X132134>=2
X100101+X101102+X101112>=2	X131133+X133134+X133164>=2
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X102103+X103109+X103111>=2	X132135+X135136+X135137>=2
X080104+X104105+X104150>=2	X135136+X136145+X136140>=2
X104105+X105106+X105151>=2	X135137+X137140+X137139>=2
X082106+X105106+X106107>=2	X120138+X134138+X138139>=2
X083107+X106107+X107108>=2	X137139+X138139+X139142>=2
X107108+X108110+X108153>=2	X136140+X137140+X140141>=2
X103109+X109110+X109111>=2	X139142+X141142+X142144>=2
X108110+X109110+X110146+X110149>=2	X143144+X143145+X143162>=2
X103111+X109111+X111146+X111112>=2	X142144+X143144+X144161>=2
X101112+X111112+X112128>=2	X130145+X136145+X143145+X145163>=2
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X093114+X114115+X114116>=2	X146147+X147149+X147156>=2
X113115+X114115+X115124>=2	X147149+X110149+X149154>=2
X092116+X114116+X116122>=2	X104150+X150151+X150157>=2
X091117+X117118+X117122>=2	X105151+X150151+X151152>=2
X090118+X117118+X118119>=2	X151152+X152159+X152153>=2
X118119+X119122+X119120>=2	X108153+X152153+X153154+X153155>=2
X119120+X120121+X120138>=2	X149154+X153154+X154156>=2
X120121+X121164+X121123>=2	X147156+X154156+X148156>=2
X116122+X117122+X119122>=2	X150157+X157158+X157159>=2
X121123+X123124+X123127>=2	X152159+X157159+X159160>=2
X115124+X123124+X124125>=2	X158160+X159160+X160161>=2
X099125+X124125+X125126>=2	X144161+X160161+X161162>=2
X125126+X100126+X126127>=2	
X123127+X126127+X127128>=2	X060163+X063163+X145163+X066163>=2
X112128+X127128+X128129>=2	X059164+X121164+X131164+X133164+X06
X128129+X129130+X129131>=2	5164>=2

X001002>=1	X031033+X033044>=1
X001002+X002003>=1	X030034+X033034>=1
X002003+X003004>=1	X030035+X035036>=1
X003004>=1	X035036+X036037>=1
X004005+X005006>=1	X036037+X037046>=1
X005006+X006007>=1	X032038+X038039+X038040>=1
X006007+X007008>=1	X039040+X039043+X039044>=1
X007008+X008009+X008016>=1	X038040+X039040>=1
X008009+X009010>=1	X011041+X040041>=1
X002010+X009010>=1	X041042+X042043>=1
X001011+X011012>=1	X039043+X042043>=1
X011012+X012013>=1	X033044+X039044+X044045>=1
X012013+X013032+X013014>=1	X043045+X044045+X045046>=1
X013014+X014015+X014031>=1	X037046+X045046>=1
X014015+X015026>=1	X046047+X047048>=1
X008016+X015016>=1	X037048+X047048>=1
X016017+X017018>=1	X047049+X049050>=1
X017018+X018028>=1	X042050+X049050>=1
X007019+X018019>=1	X050051+X051052>=1
X019020+X020025+X020024>=1	X049052+X051052>=1
X005021>=1	X052053+X053054>=1
X021022>=1	X053054+X054060+X054056>=1
X022023>=1	X053055+X055056>=1
X020024>=1	X054056+X055056>=1
X020025>=1	X055057+X057058>=1
X015026+X017026>=1	X057058+X058064+X058059>=1
X026027+X027030>=1	X058059+X059060>=1
X018028+X027028>=1	X059060+X060061+X060163>=1
X028029+X029030+X029063>=1	X036061+X060061>=1
X029030+X030034+X030035>=1	X035062+X061062>=1
X014031+X031032>=1	X062063+X029063>=1
X031032+X032038+X032044>=1	X057064+X058064>=1

X064065+X065067>=1	X085097+X096097>=1
X066067+X066163>=1	X097098+X098099>=1
X065067+X066067>=1	X098099+X099100>=1
X068069+X068070+X068080>=1	X099100+X100101>=1
X068069+X069070>=1	X100101+X101102>=1
X069070+X070071+X070078>=1	X098102+X101102+X102103>=1
X070071+X071075>=1	X102103+X103109>=1
X071072+X072074+X072073>=1	X080104+X104105>=1
X072073+X073086>=1	X104105+X105106>=1
X072074+X074085>=1	X082106+X105106>=1
X071075>=1	X083107+X106107>=1
X075076>=1	X107108+X108110>=1
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X069079+X078079>=1	X109111+X111146+X111112>=1
X068080+X080081>=1	X101112+X111112>=1
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X086087+X087088>=1	X118119+X119122>=1
X087088>=1	X119120+X120121>=1
X088089+X089091>=1	X120121+X121164>=1
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X089091+X091092>=1	X121123+X123124>=1
X091092+X092116>=1	X115124+X123124>=1
X092093+X093094>=1	X099125+X124125>=1
X087094+X093094>=1	X125126+X100126>=1
X073095+X086095>=1	X123127+X126127>=1
X095096+X096097>=1	X112128+X127128>=1

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X129130+X130145>=1	X143162>=1
X129131+X131133>=1	X063163+X145163+X066163>=1
X130132+X132135>=1	X121164+X131164+X133164>=1
X131133+X133134>=1	X001011>=1
X132134+X133134>=1	X002003+X002010>=1
X132135+X135136>=1	X003004+X003008>=1
X135136+X136145>=1	X004005>=1
X135137+X137140>=1	X005006+X005021>=1
X120138+X134138>=1	X006007+X006020>=1
X137139+X138139>=1	X007008+X007019>=1
X136140+X137140>=1	X003008+X008009+X008016>=1
X140141>=1	X009010+X009014>=1
X139142+X141142>=1	X009010+X010013>=1
X143144+X143145>=1	X011012+X011041>=1
X142144+X143144>=1	X012013+X012038>=1
X136145+X143145+X145163>=1	X010013+X013032+X013014>=1
X110146+X111146>=1	X009014+X014015+X014031>=1
X146147+X147149>=1	X015026+X015016>=1
X148155>=1	X015016+X016017>=1
X147149+X110149>=1	X017018+X017026>=1
X104150+X150151>=1	X018028+X018019>=1
X105151+X150151>=1	X018019+X019020>=1
X151152+X152159>=1	X006020+X020025+X020024>=1
X152153+X153154+X153155>=1	X021022>=1
X149154+X153154>=1	X022023>=1
X153155>=1	X023024>=1
X147156+X154156>=1	X023024>=1
X150157+X157158>=1	X025029>=1
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X152159+X157159>=1	X027030+X027028>=1
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X025029+X029030+X029063>=1	X060061+X061062>=1
X027030+X030034+X030035>=1	X061062+X062063>=1
X031032+X031033>=1	X029063+X063163>=1
X013032+X032038+X032044>=1	X058064+X064065>=1
X033044+X033034>=1	X065067+X065164>=1
X033034+X034045>=1	X066163+X066164>=1
X035036+X035062>=1	X066067+X067072>=1
X036037+X036061>=1	X051068+X068070+X068080>=1
X037046+X037048>=1	X069070+X069079>=1
X012038+X038039+X038040>=1	X068070+X070071+X070078>=1
X038039+X039043+X039044>=1	X071075+X071072>=1
X039040+X040041>=1	X067072+X072074+X072073>=1
X040041+X041042>=1	X073086+X073095>=1
X042043+X042050>=1	X074085+X074077>=1
X042043+X043045>=1	X075076>=1
X032044+X039044+X044045>=1	X076077>=1
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X049050+X049052>=1	X080081+X081082>=1
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X057058+X057064>=1	X089091+X089090>=1
X056058+X058064+X058059>=1	X090118>=1
X059060+X059164>=1	X091092+X091117>=1
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X093094+X093114>=1	X124125+X125126>=1
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X086095+X095096>=1	X126127+X127128>=1
X096097+X096113>=1	X127128+X128129>=1
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X098099+X098102>=1	X130145+X130132>=1
X099100+X099125>=1	X131133+X131164>=1
X100101+X100126>=1	X132135+X132134>=1
X101102+X101112>=1	X133134+X133164>=1
X084102+X101102+X102103>=1	X133134+X134138>=1
X103109+X103111>=1	X135136+X135137>=1
X104105+X104150>=1	X136145+X136140>=1
X105106+X105151>=1	X137140+X137139>=1
X105106+X106107>=1	X134138+X138139>=1
X106107+X107108>=1	X138139+X139142>=1
X108110+X108153>=1	X137140+X140141>=1
X109110+X109111>=1	X141142>=1
X108110+X110146+X110149>=1	X141142+X142144>=1
X103111+X111146+X111112>=1	X143145+X143162>=1
X111112+X112128>=1	X143144+X144161>=1
X096113+X113115>=1	X130145+X143145+X145163>=1
X114115+X114116>=1	X111146+X146147>=1
X114115+X115124>=1	X147149+X147156>=1
X114116+X116122>=1	X148156>=1
X117118+X117122>=1	X110149+X149154>=1
X117118+X118119>=1	X150151+X150157>=1
X119122+X119120>=1	X150151+X151152>=1
X120121+X120138>=1	X152159+X152153>=1
X121164+X121123>=1	X108153+X153154+X153155>=1
X117122+X119122>=1	X153154+X154156>=1
X123124+X123127>=1	X148155>=1
X123124+X124125>=1	X154156+X148156>=1

X157158+X157159>=1	X013032+X031032+X032044>=1
X158160>=1	X031033+X033034>=1
X157159+X159160>=1	X030034+X034045>=1
X159160+X160161>=1	X030035+X035062>=1
X160161+X161162>=1	X035036+X036061>=1
X161162>=1	X036037+X037048>=1
X060163+X145163+X066163>=1	X012038+X032038+X038040>=1
X059164+X131164+X133164>=1	X038039+X039040+X039044>=1
X001002+X002010>=1	X038040+X040041>=1
X002003+X003008>=1	X011041+X041042>=1
X004005+X005021>=1	X041042+X042050>=1
X005006+X006020>=1	X039043+X043045>=1
X006007+X007019>=1	X032044+X033044+X044045>=1
X003008+X007008+X008016>=1	X034045+X043045+X045046>=1
X008009+X009014>=1	X037046+X046047>=1
X002010+X010013>=1	X046047+X047049>=1
X001011+X011041>=1	X037048+X048054>=1
X011012+X012038>=1	X047049+X049052>=1
X010013+X012013+X013014>=1	X042050+X050051>=1
X009014+X013014+X014031>=1	X050051+X051068>=1
X014015+X015016>=1	X049052+X052053>=1
X008016+X016017>=1	X052053+X053055>=1
X016017+X017026>=1	X048054+X053054+X054056>=1
X017018+X018019>=1	X053055+X055057>=1
X007019+X019020>=1	X054056+X056058>=1
X006020+X019020+X020024>=1	X055057+X057064>=1
X015026+X026027>=1	X056058+X057058+X058059>=1
X026027+X027028>=1	X058059+X059164>=1
X018028+X028029>=1	X054060+X059060+X060163>=1
X025029+X028029+X029063>=1	X036061+X061062>=1
X027030+X029030+X030035>=1	X035062+X062063>=1
X014031+X031033>=1	X062063+X063163>=1

X057064+X064065>=1	X099100+X100126>=1
X064065+X065164>=1	X100101+X101112>=1
X066067+X066164>=1	X084102+X098102+X102103>=1
X065067+X067072>=1	X102103+X103111>=1
X051068+X068069+X068080>=1	X080104+X104150>=1
X068069+X069079>=1	X104105+X105151>=1
X068070+X069070+X070078>=1	X082106+X106107>=1
X070071+X071072>=1	X083107+X107108>=1
X067072+X071072+X072073>=1	X107108+X108153>=1
X072073+X073095>=1	X103109+X109111>=1
X072074+X074077>=1	X108110+X109110+X110149>=1
X074077+X077078>=1	X103111+X109111+X111112>=1
X070078+X078079>=1	X101112+X112128>=1
X069079+X079081>=1	X094113+X113115>=1
X068080+X080104>=1	X093114+X114116>=1
X079081+X081082>=1	X113115+X115124>=1
X081082+X082083>=1	X092116+X116122>=1
X082083+X083084>=1	X091117+X117122>=1
X083084+X084085>=1	X090118+X118119>=1
X074085+X085097>=1	X118119+X119120>=1
X073086+X086087>=1	X119120+X120138>=1
X086087+X087094>=1	X120121+X121123>=1
X088089+X089090>=1	X116122+X119122>=1
X089091+X091117>=1	X121123+X123127>=1
X091092+X092093>=1	X115124+X124125>=1
X092093+X093114>=1	X099125+X125126>=1
X087094+X094113>=1	X125126+X126127>=1
X073095+X095096>=1	X123127+X127128>=1
X095096+X096113>=1	X112128+X128129>=1
X085097+X097098>=1	X128129+X129131>=1
X097098+X098102>=1	X129130+X130132>=1
X098099+X099125>=1	X129131+X131164>=1

X130132+X132134>=1	X060163+X063163+X066163>=1
X131133+X133164>=1	X059164+X121164+X133164>=1
X132134+X134138>=1	X003008+X007008+X008009>=1
X132135+X135137>=1	X010013+X012013+X013032>=1
X135136+X136140>=1	X009014+X013014+X014015>=1
X135137+X137139>=1	X006020+X019020+X020025>=1
X120138+X138139>=1	X025029+X028029+X029030>=1
X137139+X139142>=1	X027030+X029030+X030034>=1
X136140+X140141>=1	X013032+X031032+X032038>=1
X139142+X142144>=1	X012038+X032038+X038039>=1
X143144+X143162>=1	X038039+X039040+X039043>=1
X142144+X144161>=1	X032044+X033044+X039044>=1
X130145+X136145+X145163>=1	X034045+X043045+X044045>=1
X110146+X146147>=1	X048054+X053054+X054060>=1
X146147+X147156>=1	X056058+X057058+X058064>=1
X147149+X149154>=1	X054060+X059060+X060061>=1
X104150+X150157>=1	X051068+X068069+X068070>=1
X105151+X151152>=1	X068070+X069070+X070071>=1
X151152+X152153>=1	X067072+X071072+X072074>=1
X108153+X152153+X153155>=1	X084102+X098102+X101102>=1
X149154+X154156>=1	X108110+X109110+X110146>=1
X147156+X148156>=1	X103111+X109111+X111146>=1
X150157+X157159>=1	X130145+X136145+X143145>=1
X152159+X159160>=1	X108153+X152153+X153154>=1
X158160+X160161>=1	X060163+X063163+X145163>=1
X144161+X161162>=1	X059164+X121164+X131164>=1

Mapa 13

Min

73.89X001002+156.26X001005+259.8X001006+55.39X002003+219.1X002012+88.19X003004+
133.68X003010+53.23X004005+75.89X004009+181.64X005007+119.3X006007+168.08X00611
8+25.81X007008+81.99X007119+65.8X008130+178.81X008129+114.59X009010+54.91X00913
0+48.82X010011+52.83X011012+81.45X011020+134.33X011130+49.3X012013+108.1X012019
+82.26X013014+52.47X014015+196.12X014017+194.37X015016+48.8X016017+46.76X016030
+37.84X017018+164.8X018019+67.09X018023+54.55X018029+55.38X019020+41.87X020021+
60.14X021022+104.49X021026+50.64X022023+92.88X022025+83.56X023024+110.35X023027
+53.75X024025+67.85X024027+65.42X024129+54.96X025026+87.69X026130+79.48X027028+
160.83X028029+88.79X028074+89.71X029030+64.64X030031+249.32X031032+57.67X032033
+285.2X032045+51.88X033034+146.47X033074+50.72X034035+191.5X034076+56.51X035036
+180.26X035044+38.99X036037+81.63X036039+83.94X037038+95.32X037043+34.38X038039
+114.67X038042+47.44X039076+53.4X040041+79.99X040075+125.92X040131+185.73X04107
2+184X041048+72.21X042043+51.3X042131+53.79X043044+57.25X044045+162.18X044046+2
78.6X045047+91.87X046048+55.11X046131+55.9X047048+159.44X047051+63.78X048049+53.
12X049050+272.25X049071+175.89X050066+43.52X050132+55.23X051052+59.48X051132+26
5.05X052053+213.36X052064+55.52X053054+47.92X054055+52.63X054057+50.32X055056+2
13.64X055059+221.64X056060+185.39X056063+150.4X057058+55.06X058059+50.03X058133
+48.61X059060+48.68X060061+49.39X061062+118.16X061069+48.28X061098+49.74X062063
+117.46X062068+113.45X063064+53.24X064065+50.24X064068+65.14X065066+165.23X0651
32+49.74X066067+126.75X067068+48.25X067070+50.9X068069+133.03X069070+45.58X0690
95+51.21X070071+54.43X070077+55.7X071072+157.55X071079+47.67X072073+63.29X07307
4+132.14X073134+52.2X074075+55.03X075076+92.29X077078+71.35X077094+46.79X078079
+70.18X078092+60.82X079134+51.15X080081+121.28X080087+66.02X080128+51.47X081082
+207.05X081135+49.08X082083+194.02X082119+52.62X083084+196.55X083121+54.4X08408
5+193.66X084122+52.04X085135+102.33X085136+57.87X086088+65.49X086110+47.32X0861
35+83.63X087088+49.24X087092+98.93X088089+49.1X089090+133.4X089102+88.84X089107
+77.19X090091+46.79X090099+129.9X090101+106.37X091092+42.21X091097+46.62X092093
+41.49X093094+105.92X093097+69.67X094095+38.04X095096+42.71X096097+77.73X096098

+43.85X098099+136.39X098133+132.79X099100+43.91X100101+46.91X100133+50.32X10110
2+54.58X102103+51X103104+144.64X103107+63.5X104105+54.23X105106+45.75X106108+52
.04X107108+48.33X108109+48.41X109110+75.86X109112+83.08X110111+55.11X111112+52.6
9X111136+45.13X112113+33.45X113114+107.19X113127+55.94X114115+124.04X114125+72.
63X115116+135.84X115124+196X116117+110.22X117118+72.25X117123+18.11X119120+34.5
1X120121+217.06X120123+59.63X121122+111.29X122123+54.2X122126+57.1X123124+53.05
X124125+40.38X126127+101.75X128129+51.43X128134

S.T.

X001002+X001005+X001006>=2	X023027+X024027+X027028>=2
X001002+X002003+X002012>=2	X027028+X028029+X028074>=2
X002003+X003004+X003010>=2	X018029+X028029+X029030>=2
X003004+X004005+X004009>=2	X016030+X029030+X030031>=2
X001005+X004005+X005007>=2	X031032+X032033+X032045>=2
X001006+X006007+X006118>=2	X032033+X033034+X033074>=2
X005007+X006007+X007008+X007119>=2	X033034+X034035+X034076>=2
X007008+X008130+X008129>=2	X034035+X035036+X035044>=2
X004009+X009010+X009130>=2	X035036+X036037+X036039>=2
X003010+X009010+X010011>=2	X036037+X037038+X037043>=2
X010011+X011012+X011020+X011130>=2	X037038+X038039+X038042>=2
X002012+X011012+X012013+X012019>=2	X036039+X038039+X039076>=2
X013014+X014015+X014017>=2	X040041+X040075+X040131>=2
X015016+X016017+X016030>=2	X040041+X041072+X041048>=2
X014017+X016017+X017018>=2	X038042+X042043+X042131>=2
X017018+X018019+X018023+X018029>=2	X037043+X042043+X043044>=2
X012019+X018019+X019020>=2	X035044+X043044+X044045+X044046>=2
X011020+X019020+X020021>=2	X032045+X044045+X045047>=2
X020021+X021022+X021026>=2	X044046+X046048+X046131>=2
X021022+X022023+X022025>=2	X045047+X047048+X047051>=2
X018023+X022023+X023024+X023027>=2	X041048+X046048+X047048+X048049>=2
X023024+X024025+X024027+X024129>=2	X048049+X049050+X049071>=2
X022025+X024025+X025026>=2	X049050+X050066+X050132>=2
X021026+X025026+X026130>=2	X047051+X051052+X051132>=2

X051052+X052053+X052064>=2	X086088+X086110+X086135>=2
X053054+X054055+X054057>=2	X080087+X087088+X087092>=2
X054055+X055056+X055059>=2	X086088+X087088+X088089>=2
X055056+X056060+X056063>=2	X088089+X089090+X089102+X089107>=2
X057058+X058059+X058133>=2	X089090+X090091+X090099+X090101>=2
X055059+X058059+X059060>=2	X090091+X091092+X091097>=2
X056060+X059060+X060061>=2	X078092+X087092+X091092+X092093>=2
X060061+X061062+X061069+X061098>=2	X092093+X093094+X093097>=2
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X056063+X062063+X063064>=2	X069095+X094095+X095096>=2
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X067070+X069070+X070071+X070077>=2	X089102+X101102+X102103>=2
X049071+X070071+X071072+X071079>=2	X102103+X103104+X103107>=2
X041072+X071072+X072073>=2	X089107+X103107+X107108>=2
X072073+X073074+X073134>=2	X106108+X107108+X108109>=2
X028074+X033074+X073074+X074075>=2	X108109+X109110+X109112>=2
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X080128+X128129+X128134>=2	X022025+X024025>=1
X008129+X024129+X128129>=2	X021026+X025026>=1
X008130+X009130+X011130+X026130>=2	X023027+X024027>=1
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X001002+X002003>=1	X033034+X034035>=1
X002003+X003004>=1	X034035+X035036>=1
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X013014+X014015>=1	X044046+X046048>=1
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X018019+X018023+X018029>=1	X049050+X050066>=1
X012019+X018019>=1	X047051+X051052>=1
X011020+X019020>=1	X051052+X052053>=1
X020021+X021022>=1	X052053>=1
X021022+X022023>=1	X053054+X054055>=1

X054055+X055056>=1	X080087+X087088>=1
X055056+X056060>=1	X086088+X087088>=1
X054057>=1	X089090+X089102+X089107>=1
X057058+X058059>=1	X090091+X090099+X090101>=1
X055059+X058059>=1	X090091+X091092>=1
X056060+X059060>=1	X087092+X091092+X092093>=1
X061062+X061069+X061098>=1	X092093+X093094>=1
X061062+X062063>=1	X077094+X093094>=1
X056063+X062063>=1	X069095+X094095>=1
X063064+X064065+X064068>=1	X095096+X096097>=1
X064065+X065066>=1	X091097+X093097>=1
X050066+X065066>=1	X096098+X098099+X098133>=1
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X064068+X067068+X068069>=1	X099100+X100101>=1
X068069+X069070+X069095>=1	X090101+X100101>=1
X069070+X070071+X070077>=1	X089102+X101102>=1
X070071+X071072+X071079>=1	X102103+X103104>=1
X041072+X071072>=1	X103104>=1
X072073+X073074>=1	X104105>=1
X033074+X073074+X074075>=1	X105106>=1
X040075+X074075>=1	X089107+X103107>=1
X034076+X039076>=1	X106108+X107108>=1
X070077+X077078>=1	X108109+X109110>=1
X077078+X078079>=1	X086110+X109110>=1
X071079+X078079>=1	X110111+X111112>=1
X080081+X080087>=1	X109112+X111112>=1
X080081+X081082>=1	X112113+X113114>=1
X081082+X082083>=1	X113114+X114115>=1
X082083+X083084>=1	X114115+X115116>=1
X083084+X084085>=1	X115116>=1
X084085+X085135>=1	X116117+X117118>=1
X086088+X086110>=1	X006118>=1

X007119+X082119>=1	X015016>=1
X119120+X120121>=1	X016017+X016030>=1
X083121+X120121>=1	X016017+X017018>=1
X121122+X122123+X122126>=1	X017018+X018023+X018029>=1
X120123+X122123+X123124>=1	X018019+X019020>=1
X115124+X123124>=1	X019020+X020021>=1
X114125>=1	X021022+X021026>=1
X122126>=1	X022023+X022025>=1
X113127>=1	X018023+X023024+X023027>=1
X080128+X128129>=1	X023024+X024027+X024129>=1
X008129+X024129>=1	X024025+X025026>=1
X009130+X011130+X026130>=1	X025026+X026130>=1
X040131+X042131>=1	X024027+X027028>=1
X050132+X051132>=1	X028029+X028074>=1
X058133+X098133>=1	X028029+X029030>=1
X073134+X079134>=1	X029030+X030031>=1
X081135+X085135>=1	X031032>=1
X085136>=1	X032033+X032045>=1
X001005+X001006>=1	X033034+X033074>=1
X002003+X002012>=1	X034035+X034076>=1
X003004+X003010>=1	X035036+X035044>=1
X004005+X004009>=1	X036037+X036039>=1
X004005+X005007>=1	X037038+X037043>=1
X006007+X006118>=1	X038039+X038042>=1
X005007+X007008+X007119>=1	X038039+X039076>=1
X008130+X008129>=1	X040075+X040131>=1
X009010+X009130>=1	X041072+X041048>=1
X009010+X010011>=1	X042043+X042131>=1
X010011+X011020+X011130>=1	X042043+X043044>=1
X002012+X012013+X012019>=1	X035044+X044045+X044046>=1
X013014>=1	X044045+X045047>=1
X014015+X014017>=1	X046048+X046131>=1

X047048+X047051>=1	X078079+X079134>=1
X041048+X047048+X048049>=1	X080087+X080128>=1
X049050+X049071>=1	X081082+X081135>=1
X050066+X050132>=1	X082083+X082119>=1
X051052+X051132>=1	X083084+X083121>=1
X052053+X052064>=1	X084085+X084122>=1
X053054>=1	X085135+X085136>=1
X054055+X054057>=1	X086110+X086135>=1
X055056+X055059>=1	X087088+X087092>=1
X056060+X056063>=1	X087088+X088089>=1
X057058>=1	X088089+X089102+X089107>=1
X058059+X058133>=1	X089090+X090099+X090101>=1
X058059+X059060>=1	X091092+X091097>=1
X059060+X060061>=1	X078092+X091092+X092093>=1
X060061+X061069+X061098>=1	X093094+X093097>=1
X062063+X062068>=1	X093094+X094095>=1
X062063+X063064>=1	X094095+X095096>=1
X052064+X064065+X064068>=1	X096097+X096098>=1
X065066+X065132>=1	X093097+X096097>=1
X065066+X066067>=1	X061098+X098099+X098133>=1
X067068+X067070>=1	X098099+X099100>=1
X062068+X067068+X068069>=1	X100101+X100133>=1
X061069+X069070+X069095>=1	X100101+X101102>=1
X067070+X070071+X070077>=1	X101102+X102103>=1
X049071+X071072+X071079>=1	X103104+X103107>=1
X071072+X072073>=1	X104105>=1
X073074+X073134>=1	X105106>=1
X028074+X073074+X074075>=1	X106108>=1
X074075+X075076>=1	X103107+X107108>=1
X039076+X075076>=1	X107108+X108109>=1
X077078+X077094>=1	X109110+X109112>=1
X078079+X078092>=1	X109110+X110111>=1

X111112+X111136>=1	X005007+X006007+X007119>=1
X111112+X112113>=1	X007008+X008129>=1
X113114+X113127>=1	X004009+X009130>=1
X114115+X114125>=1	X003010+X010011>=1
X115116+X115124>=1	X010011+X011012+X011130>=1
X116117>=1	X002012+X011012+X012019>=1
X117118+X117123>=1	X013014+X014017>=1
X117118>=1	X015016+X016030>=1
X082119+X119120>=1	X014017+X017018>=1
X120121+X120123>=1	X017018+X018019+X018029>=1
X120121+X121122>=1	X012019+X019020>=1
X084122+X122123+X122126>=1	X011020+X020021>=1
X117123+X122123+X123124>=1	X020021+X021026>=1
X123124+X124125>=1	X021022+X022025>=1
X124125>=1	X018023+X022023+X023027>=1
X126127>=1	X023024+X024025+X024129>=1
X126127>=1	X022025+X025026>=1
X128129+X128134>=1	X021026+X026130>=1
X024129+X128129>=1	X023027+X027028>=1
X008130+X011130+X026130>=1	X027028+X028074>=1
X042131+X046131>=1	X018029+X029030>=1
X051132+X065132>=1	X016030+X030031>=1
X098133+X100133>=1	X031032+X032045>=1
X079134+X128134>=1	X032033+X033074>=1
X085135+X086135>=1	X033034+X034076>=1
X111136>=1	X034035+X035044>=1
X001002+X001006>=1	X035036+X036039>=1
X001002+X002012>=1	X036037+X037043>=1
X002003+X003010>=1	X037038+X038042>=1
X003004+X004009>=1	X036039+X039076>=1
X001005+X005007>=1	X040041+X040131>=1
X001006+X006118>=1	X040041+X041048>=1

X038042+X042131>=1	X034076+X075076>=1
X037043+X043044>=1	X070077+X077094>=1
X035044+X043044+X044046>=1	X077078+X078092>=1
X032045+X045047>=1	X071079+X079134>=1
X044046+X046131>=1	X080081+X080128>=1
X045047+X047051>=1	X080081+X081135>=1
X041048+X046048+X048049>=1	X081082+X082119>=1
X048049+X049071>=1	X082083+X083121>=1
X049050+X050132>=1	X083084+X084122>=1
X047051+X051132>=1	X084085+X085136>=1
X051052+X052064>=1	X086088+X086135>=1
X053054+X054057>=1	X080087+X087092>=1
X054055+X055059>=1	X086088+X088089>=1
X055056+X056063>=1	X088089+X089090+X089107>=1
X057058+X058133>=1	X089090+X090091+X090101>=1
X055059+X059060>=1	X090091+X091097>=1
X056060+X060061>=1	X078092+X087092+X092093>=1
X060061+X061062+X061098>=1	X092093+X093097>=1
X061062+X062068>=1	X077094+X094095>=1
X056063+X063064>=1	X069095+X095096>=1
X052064+X063064+X064068>=1	X095096+X096098>=1
X064065+X065132>=1	X091097+X096097>=1
X050066+X066067>=1	X061098+X096098+X098133>=1
X066067+X067070>=1	X090099+X099100>=1
X062068+X064068+X068069>=1	X099100+X100133>=1
X061069+X068069+X069095>=1	X090101+X101102>=1
X067070+X069070+X070077>=1	X089102+X102103>=1
X049071+X070071+X071079>=1	X102103+X103107>=1
X041072+X072073>=1	X089107+X107108>=1
X072073+X073134>=1	X106108+X108109>=1
X028074+X033074+X074075>=1	X108109+X109112>=1
X040075+X075076>=1	X086110+X110111>=1

X110111+X111136>=1	X010011+X011012+X011020>=1
X109112+X112113>=1	X002012+X011012+X012013>=1
X112113+X113127>=1	X017018+X018019+X018023>=1
X113114+X114125>=1	X018023+X022023+X023024>=1
X114115+X115124>=1	X023024+X024025+X024027>=1
X116117+X117123>=1	X035044+X043044+X044045>=1
X007119+X119120>=1	X041048+X046048+X047048>=1
X119120+X120123>=1	X060061+X061062+X061069>=1
X083121+X121122>=1	X052064+X063064+X064065>=1
X084122+X121122+X122126>=1	X062068+X064068+X067068>=1
X117123+X120123+X123124>=1	X061069+X068069+X069070>=1
X115124+X124125>=1	X067070+X069070+X070071>=1
X080128+X128134>=1	X049071+X070071+X071072>=1
X008129+X128129>=1	X028074+X033074+X073074>=1
X008130+X009130+X026130>=1	X088089+X089090+X089102>=1
X040131+X046131>=1	X089090+X090091+X090099>=1
X050132+X065132>=1	X078092+X087092+X091092>=1
X058133+X100133>=1	X061098+X096098+X098099>=1
X073134+X128134>=1	X084122+X121122+X122123>=1
X081135+X086135>=1	X117123+X120123+X122123>=1
X005007+X006007+X007008>=1	X008130+X009130+X011130>=1

Mapa 14

Min

68.83X001002+239.23X001005+94.66X002003+211.71X002006+78.9X003004+56.67X004007+
154.78X004038+60.14X005006+170.32X005010+165.56X006011+51.1X006007+55.11X007008
+179.58X007037+51.73X008009+197.34X008036+55.9X009012+99.68X009034+65.93X010011
+292.27X010039+56.51X011012+116.39X012039+106.27X012046+119.46X012013+62.33X013
047+56.67X013014+111.69X014015+61.86X014048+109.6X015016+57.43X016052+274.1X016
017+54.12X017062+64.9X018019+206.52X018028+180.17X020028+53.69X022023+50.45X022
026+428.89X022062+105.34X023024+54.27X024025+198.85X024038+55.8X025026+58.42X02
5031+177.19X025037+196.96X026027+53.78X027028+54.19X027029+55.03X029033+53.2X03
0031+55.02X030032+157.78X031036+76.5X032035+199.33X033034+139.45X034035+56.17X0
35036+54X036037+53.44X037038+179.2X039040+173.59X040041+61.56X040045+57.53X0410
42+51.2X042043+50.29X042055+220.84X042057+109.36X043054+51.32X043044+109.84X044
048+48.8X044045+153.02X045046+148X045047+90.71X046047+53.4X048049+53.04X049050+
130.55X049054+26.12X050051+104.67X050053+75.5X051052+51.72X053054+92.43X053058+
180.48X055056+55.42X056057+51.72X057058+56.14X060061+67.09X061062+73.37X062063+
58.94X063064+97.08X064065+29.3X064086+52.62X065066+47.25X065087+50.25X066067+16
1.28X066079+52.79X067068+175.79X067076+182.73X068075+53.51X068069+231.06X069073
+52.71X069070+210X070072+169.06X071072+321.64X068071+64.93X072073+90.39X073074+
134.25X074075+83.94X074078+328.75X074094+49X075076+50.32X076077+50.9X076079+146
.88X077081+49.95X077078+145.58X078082+389.92X078094+49.74X079080+52.89X080088+9
9.13X080084+57.83X081082+54.06X081083+242.39X082093+56.67X083084+298.71X083092+
58.4X084089+50.57X084085+51.15X085086+93.18X085088+96.73X086087+49.07X087088+33
4.58X089090+43.62X090091+247.47X090106+159.56X091095+50.45X091092+275.43X091097
+289.47X092098+51.85X092093+55.7X093094+322.47X093098+87.02X095096+148.17X09510
5+58.77X096102+171.83X096103+59.19X097101+57X097099+31.26X098099+155.38X100101+
172.35X101102+99.32X102103+69.93X103104+64.16X103105+121.78X104107+54.36X105106
+86.25X106107

S.T.

X001002+X002003+X002006>=2

X003004+X004007+X004038>=2

X001005+X005006+X005010>=2	X012046+X045046+X046047>=2
X002006+X005006+X006011+X006007>=2	X013047+X045047+X046047>=2
X004007+X006007+X007008+X007037>=2	X014048+X044048+X048049>=2
X007008+X008009+X008036>=2	X048049+X049050+X049054>=2
X008009+X009012+X009034>=2	X049050+X050051+X050053>=2
X005010+X010011+X010039>=2	X050053+X053054+X053058>=2
X006011+X010011+X011012>=2	X043054+X049054+X053054>=2
X009012+X011012+X012039+X012046+X012013>=2	X042057+X056057+X057058>=2
X012013+X013047+X013014>=2	X060061>=1
X013014+X014015+X014048>=2	X017062+X022062+X061062+X062063>=2
X015016+X016052+X016017>=2	X063064+X064065+X064086>=2
X018019>=1	X064065+X065066+X065087>=2
X020028>=1	X065066+X066067+X066079>=2
X022023+X022026+X022062>=2	X066067+X067068+X067076>=2
X023024+X024025+X024038>=2	X067068+X068075+X068069+X068071>=2
X024025+X025026+X025031+X025037>=2	X068069+X069073+X069070>=2
X022026+X025026+X026027>=2	X070072+X071072+X072073>=2
X026027+X027028+X027029>=2	X069073+X072073+X073074>=2
X018028+X020028+X027028>=2	X073074+X074075+X074078+X074094>=2
X025031+X030031+X031036>=2	X068075+X074075+X075076>=2
X009034+X033034+X034035>=2	X067076+X075076+X076077+X076079>=2
X032035+X034035+X035036>=2	X076077+X077081+X077078>=2
X008036+X031036+X035036+X036037>=2	X074078+X077078+X078082+X078094>=2
X007037+X025037+X036037+X037038>=2	X066079+X076079+X079080>=2
X004038+X024038+X037038>=2	X079080+X080088+X080084>=2
X010039+X012039+X039040>=2	X077081+X081082+X081083>=2
X039040+X040041+X040045>=2	X078082+X081082+X082093>=2
X041042+X042043+X042055+X042057>=2	X081083+X083084+X083092>=2
X042043+X043054+X043044>=2	X080084+X083084+X084089+X084085>=2
X043044+X044048+X044045>=2	X084085+X085086+X085088>=2
X040045+X044045+X045046+X045047>=2	X064086+X085086+X086087>=2
	X065087+X086087+X087088>=2

X080088+X085088+X087088>=2	X016017>=1
X089090+X090091+X090106>=2	X018019>=1
X090091+X091095+X091092+X091097>=2	X022023+X022026>=1
X083092+X091092+X092098+X092093>=2	X022023>=1
X082093+X092093+X093094+X093098>=2	X023024+X024025>=1
X074094+X078094+X093094>=2	X025026+X025031+X025037>=1
X091095+X095096+X095105>=2	X022026+X025026>=1
X095096+X096102+X096103>=2	X026027+X027028>=1
X091097+X097101+X097099>=2	X018028+X020028>=1
X092098+X093098+X098099>=2	X027029>=1
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X097101+X100101+X101102>=2	X025031+X030031>=1
X096102+X101102+X102103>=2	X030032>=1
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X090106+X105106+X106107>=2	X032035+X034035>=1
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X002003>=1	X004038+X024038>=1
X003004+X004007>=1	X010039+X012039>=1
X001005+X005006>=1	X039040+X040041>=1
X005006+X006011+X006007>=1	X040041>=1
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X005010+X010011>=1	X044045+X045046+X045047>=1
X006011+X010011>=1	X012046+X045046>=1
X011012+X012039+X012046>=1	X013047+X045047>=1
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X013014+X014015>=1	X048049+X049050>=1
X014015>=1	X049050+X050051>=1
X015016+X016052>=1	X050051>=1

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X050053+X053054>=1	X065087+X086087>=1
X043054+X049054>=1	X080088+X085088>=1
X042055>=1	X084089>=1
X055056>=1	X089090+X090091>=1
X042057+X056057>=1	X091095+X091092+X091097>=1
X053058>=1	X091092+X092098+X092093>=1
X060061>=1	X092093+X093094+X093098>=1
X022062+X061062+X062063>=1	X074094+X078094>=1
X062063>=1	X091095+X095096>=1
X063064+X064065>=1	X095096+X096102>=1
X064065+X065066>=1	X091097+X097101>=1
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X066067+X067068>=1	X097099>=1
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X069070>=1	X102103+X103104+X103105>=1
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X069073+X072073>=1	X090106+X105106>=1
X074075+X074078+X074094>=1	X104107>=1
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X075076+X076077+X076079>=1	X002003+X002006>=1
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X077078+X078082+X078094>=1	X004007+X004038>=1
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X009012+X012039+X012046>=1	X045047+X046047>=1
X013047+X013014>=1	X044048+X048049>=1
X014015+X014048>=1	X049050+X049054>=1
X015016>=1	X050051+X050053>=1
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X018028>=1	X053054+X053058>=1
X022026+X022062>=1	X049054+X053054>=1
X023024>=1	X055056>=1
X024025+X024038>=1	X056057>=1
X024025+X025031+X025037>=1	X056057+X057058>=1
X025026+X026027>=1	X057058>=1
X027028+X027029>=1	X061062>=1
X020028+X027028>=1	X017062+X061062+X062063>=1
X029033>=1	X063064>=1
X030032>=1	X064065+X064086>=1
X030031+X031036>=1	X065066+X065087>=1
X032035>=1	X066067+X066079>=1
X033034>=1	X067068+X067076>=1
X033034+X034035>=1	X067068+X068069+X068071>=1
X034035+X035036>=1	X069073+X069070>=1
X008036+X035036+X036037>=1	X070072>=1
X007037+X036037+X037038>=1	X068071>=1
X024038+X037038>=1	X071072+X072073>=1
X012039+X039040>=1	X072073+X073074>=1
X040041+X040045>=1	X073074+X074078+X074094>=1
X041042>=1	X074075+X075076>=1
X041042+X042055+X042057>=1	X067076+X076077+X076079>=1
X043054+X043044>=1	X077081+X077078>=1
X044048+X044045>=1	X074078+X078082+X078094>=1
X040045+X045046+X045047>=1	X076079+X079080>=1
X045046+X046047>=1	X080088+X080084>=1

X081082+X081083>=1	X008009+X009034>=1
X081082+X082093>=1	X005010+X010039>=1
X083084+X083092>=1	X006011+X011012>=1
X080084+X084089+X084085>=1	X009012+X011012+X012046>=1
X085086+X085088>=1	X012013+X013014>=1
X085086+X086087>=1	X013014+X014048>=1
X086087+X087088>=1	X015016+X016017>=1
X085088+X087088>=1	X022023+X022062>=1
X089090>=1	X023024+X024038>=1
X090091+X090106>=1	X024025+X025026+X025037>=1
X090091+X091092+X091097>=1	X022026+X026027>=1
X083092+X092098+X092093>=1	X026027+X027029>=1
X082093+X093094+X093098>=1	X018028+X027028>=1
X078094+X093094>=1	X025031+X031036>=1
X095096+X095105>=1	X009034+X034035>=1
X096102+X096103>=1	X032035+X035036>=1
X097101+X097099>=1	X008036+X031036+X036037>=1
X093098+X098099>=1	X007037+X025037+X037038>=1
X098099>=1	X004038+X037038>=1
X100101+X101102>=1	X010039+X039040>=1
X101102+X102103>=1	X039040+X040045>=1
X096103+X103104+X103105>=1	X041042+X042043+X042057>=1
X104107>=1	X042043+X043044>=1
X103105+X105106>=1	X043044+X044045>=1
X105106+X106107>=1	X040045+X044045+X045047>=1
X106107>=1	X012046+X046047>=1
X001002+X002006>=1	X013047+X046047>=1
X003004+X004038>=1	X014048+X048049>=1
X001005+X005010>=1	X048049+X049054>=1
X002006+X005006+X006007>=1	X049050+X050053>=1
X004007+X006007+X007037>=1	X050053+X053058>=1
X007008+X008036>=1	X043054+X053054>=1

X042057+X057058>=1	X074094+X093094>=1
X017062+X022062+X062063>=1	X091095+X095105>=1
X063064+X064086>=1	X095096+X096103>=1
X064065+X065087>=1	X091097+X097099>=1
X065066+X066079>=1	X092098+X098099>=1
X066067+X067076>=1	X097101+X101102>=1
X067068+X068075+X068071>=1	X096102+X102103>=1
X068069+X069070>=1	X096103+X102103+X103105>=1
X070072+X072073>=1	X095105+X105106>=1
X069073+X073074>=1	X090106+X106107>=1
X073074+X074075+X074094>=1	X002006+X005006+X006011>=1
X068075+X075076>=1	X004007+X006007+X007008>=1
X067076+X075076+X076079>=1	X009012+X011012+X012039>=1
X076077+X077078>=1	X024025+X025026+X025031>=1
X074078+X077078+X078094>=1	X008036+X031036+X035036>=1
X066079+X079080>=1	X007037+X025037+X036037>=1
X079080+X080084>=1	X041042+X042043+X042055>=1
X077081+X081083>=1	X040045+X044045+X045046>=1
X078082+X082093>=1	X017062+X022062+X061062>=1
X081083+X083092>=1	X067068+X068075+X068069>=1
X080084+X083084+X084085>=1	X073074+X074075+X074078>=1
X084085+X085088>=1	X067076+X075076+X076077>=1
X064086+X086087>=1	X074078+X077078+X078082>=1
X065087+X087088>=1	X080084+X083084+X084089>=1
X080088+X087088>=1	X090091+X091095+X091092>=1
X089090+X090106>=1	X083092+X091092+X092098>=1
X090091+X091095+X091097>=1	X082093+X092093+X093094>=1
X083092+X091092+X092093>=1	X096103+X102103+X103104>=1
X082093+X092093+X093098>=1	

Mapa 15

Min

46.38X001002+116.75X001005+54.55X001010+113.9X002003+83.28X002004+93.72X003004+
56.51X003089+50.44X004005+52.71X005006+247.83X006007+195.95X007023+14.78X007088
+55.14X008009+43.46X008016+70.16X008017+52.51X008088+198.59X009010+53.32X009089
+46.38X010011+221.49X011012+217.15X012013+180.46X012044+51.24X013014+64.62X0130
30+176.65X013035+50X014015+210.36X014028+114.7X015016+53.28X015019+67.36X017018
+117.97X017022+56.27X018019+90.06X018021+62.7X019020+49.51X020021+49.95X020026+
28.9X021022+46.79X022023+57.28X023024+52.25X024025+155.97X024026+149.05X025027+
332.23X025042+66.09X026027+55X027028+45.37X028029+127.83X029030+46.96X029032+80
.67X029042+51.88X030031+87.24X031032+134.24X031034+111.4X032033+43.08X033034+77.
42X033041+78.51X034037+87.95X035036+46.26X036037+83.2X036038+77.42X037040+82.62
X038039+133.17X038046+84.63X039040+182.79X039043+69.19X040041+180.65X041042+173
.67X043047+99.2X043053+82.61X043090+185.16X044046+99.88X046047+75.1X047090+50.44
X047048+46.55X048049+99.02X048051+93.84X049054+35.59X049050+97.57X049054+84.24X
050055+42.96X050060+77.98X051052+44.33X051054+49.95X052053+106.79X052057+92.14X
053058+47.31X054055+48.17X055059+44.94X056057+71.06X056063+127.55X057064+118.31
X058065+98.27X059063+50.33X059062+49.51X060061+93.11X061062+43.65X061068+83.68X
062067+53.94X063066+45.37X064065+44.94X064066+49.95X065072+44.94X066067+44.94X0
66071+45.37X067070+162.39X068069+52.24X069070+52.24X069073+49.95X070071+52.71X0
70074+104.1X071072+50.44X071075+54.19X072077+59.58X073078+49.95X073074+130.61X0
74080+59.15X074075+52.24X075076+123.3X075083+52.24X076077+124.62X076084+132.91X
077085+78.82X078079+61.33X079080+49.56X079081+54.99X080083+49.29X080082+52.24X0
81082+47.65X082086+54.99X083084+45.37X083086+49.56X084085+54.99X085087+94.5X086
087

S.T.

X001002+X001005+X001010>=2	X001005+X004005+X005006>=2
X001002+X002003+X002004>=2	X006007+X007023+X007088>=2
X002003+X003004+X003089>=2	X008009+X008016+X008017+X008088>=2
X002004+X003004+X004005>=2	X008009+X009010+X009089>=2

X001010+X009010+X010011>=2	X043047+X046047+X047090+X047048>=2
X011012+X012013+X012044>=2	X047048+X048049+X048051>=2
X012013+X013014+X013030+X013035>=2	X048049+X049054+X049050+X049054>=2
X013014+X014015+X014028>=2	X049050+X050055+X050060>=2
X014015+X015016+X015019>=2	X048051+X051052+X051054>=2
X008017+X017018+X017022>=2	X051052+X052053+X052057>=2
X017018+X018019+X018021>=2	X043053+X052053+X053058>=2
X015019+X018019+X019020>=2	X049054+X049054+X051054+X054055>=2
X019020+X020021+X020026>=2	X050055+X054055+X055059>=2
X018021+X020021+X021022>=2	X052057+X056057+X057064>=2
X017022+X021022+X022023>=2	X055059+X059063+X059062>=2
X007023+X022023+X023024>=2	X060061+X061062+X061068>=2
X023024+X024025+X024026>=2	X059062+X061062+X062067>=2
X024025+X025027+X025042>=2	X056063+X059063+X063066>=2
X020026+X024026+X026027>=2	X057064+X064065+X064066>=2
X025027+X026027+X027028>=2	X058065+X064065+X065072>=2
X014028+X027028+X028029>=2	X063066+X064066+X066067+X066071>=2
X028029+X029030+X029032+X029042>=2	X062067+X066067+X067070>=2
X013030+X029030+X030031>=2	X068069+X069070+X069073>=2
X030031+X031032+X031034>=2	X067070+X069070+X070071+X070074>=2
X029032+X031032+X032033>=2	X066071+X070071+X071072+X071075>=2
X032033+X033034+X033041>=2	X065072+X071072+X072077>=2
X031034+X033034+X034037>=2	X069073+X073078+X073074>=2
X035036+X036037+X036038>=2	X070074+X073074+X074080+X074075>=2
X034037+X036037+X037040>=2	X071075+X074075+X075076+X075083>=2
X036038+X038039+X038046>=2	X075076+X076077+X076084>=2
X038039+X039040+X039043>=2	X072077+X076077+X077085>=2
X037040+X039040+X040041>=2	X078079+X079080+X079081>=2
X033041+X040041+X041042>=2	X074080+X079080+X080083+X080082>=2
X025042+X029042+X041042>=2	X080082+X081082+X082086>=2
X039043+X043047+X043053+X043090>=2	X075083+X080083+X083084+X083086>=2
X038046+X044046+X046047>=2	X076084+X083084+X084085>=2

X077085+X084085+X085087>=2	X030031+X031032>=1
X082086+X083086+X086087>=2	X029032+X031032>=1
X001002+X001005>=1	X032033+X033034>=1
X001002+X002003>=1	X031034+X033034>=1
X002003+X003004>=1	X013035>=1
X002004+X003004>=1	X035036+X036037>=1
X001005+X004005>=1	X034037+X036037>=1
X005006>=1	X036038+X038039>=1
X006007+X007023>=1	X038039+X039040>=1
X008016+X008017+X008088>=1	X037040+X039040>=1
X008009+X009010>=1	X033041+X040041>=1
X001010+X009010>=1	X025042+X029042>=1
X010011>=1	X043047+X043053+X043090>=1
X011012+X012013>=1	X012044>=1
X013014+X013030+X013035>=1	X038046+X044046>=1
X013014+X014015>=1	X046047+X047090+X047048>=1
X014015+X015016>=1	X047048+X048049>=1
X008016>=1	X049054+X049050+X049054>=1
X008017+X017018>=1	X049050+X050055>=1
X017018+X018019>=1	X048051+X051052>=1
X015019+X018019>=1	X051052+X052053>=1
X019020+X020021>=1	X043053+X052053>=1
X018021+X020021>=1	X049054+X051054+X054055>=1
X017022+X021022>=1	X050055+X054055>=1
X007023+X022023>=1	X056057>=1
X023024+X024025>=1	X052057+X056057>=1
X024025+X025027>=1	X053058>=1
X020026+X024026>=1	X055059+X059063>=1
X025027+X026027>=1	X050060>=1
X014028+X027028>=1	X060061+X061062>=1
X029030+X029032+X029042>=1	X059062+X061062>=1
X013030+X029030>=1	X056063+X059063>=1

X057064+X064065>=1	X006007>=1
X058065+X064065>=1	X007023+X007088>=1
X064066+X066067+X066071>=1	X008009+X008017+X008088>=1
X062067+X066067>=1	X009010+X009089>=1
X061068>=1	X009010+X010011>=1
X068069+X069070>=1	X011012>=1
X069070+X070071+X070074>=1	X012013+X012044>=1
X070071+X071072+X071075>=1	X012013+X013030+X013035>=1
X065072+X071072>=1	X014015+X014028>=1
X069073+X073078>=1	X015016+X015019>=1
X073074+X074080+X074075>=1	X015016>=1
X074075+X075076+X075083>=1	X017018+X017022>=1
X075076+X076077>=1	X018019+X018021>=1
X072077+X076077>=1	X018019+X019020>=1
X073078>=1	X020021+X020026>=1
X078079+X079080>=1	X020021+X021022>=1
X079080+X080083+X080082>=1	X021022+X022023>=1
X079081>=1	X022023+X023024>=1
X080082+X081082>=1	X024025+X024026>=1
X080083+X083084+X083086>=1	X025027+X025042>=1
X076084+X083084>=1	X024026+X026027>=1
X077085+X084085>=1	X026027+X027028>=1
X082086+X083086>=1	X027028+X028029>=1
X085087>=1	X028029+X029032+X029042>=1
X007088>=1	X029030+X030031>=1
X003089>=1	X031032+X031034>=1
X043090>=1	X031032+X032033>=1
X001005+X001010>=1	X033034+X033041>=1
X002003+X002004>=1	X033034+X034037>=1
X003004+X003089>=1	X035036>=1
X003004+X004005>=1	X036037+X036038>=1
X004005+X005006>=1	X036037+X037040>=1

X038039+X038046>=1	X066071+X071072+X071075>=1
X039040+X039043>=1	X071072+X072077>=1
X039040+X040041>=1	X073078+X073074>=1
X040041+X041042>=1	X070074+X074080+X074075>=1
X029042+X041042>=1	X071075+X075076+X075083>=1
X039043+X043053+X043090>=1	X076077+X076084>=1
X044046>=1	X076077+X077085>=1
X044046+X046047>=1	X078079>=1
X043047+X047090+X047048>=1	X079080+X079081>=1
X048049+X048051>=1	X074080+X080083+X080082>=1
X048049+X049050+X049054>=1	X081082>=1
X050055+X050060>=1	X081082+X082086>=1
X051052+X051054>=1	X075083+X083084+X083086>=1
X052053+X052057>=1	X083084+X084085>=1
X052053+X053058>=1	X084085+X085087>=1
X049054+X051054+X054055>=1	X083086+X086087>=1
X054055+X055059>=1	X086087>=1
X056063>=1	X008088>=1
X056057+X057064>=1	X009089>=1
X058065>=1	X047090>=1
X059063+X059062>=1	X001002+X001010>=1
X060061>=1	X001002+X002004>=1
X061062+X061068>=1	X002003+X003089>=1
X061062+X062067>=1	X002004+X004005>=1
X059063+X063066>=1	X001005+X005006>=1
X064065+X064066>=1	X006007+X007088>=1
X064065+X065072>=1	X008009+X008016+X008088>=1
X063066+X066067+X066071>=1	X008009+X009089>=1
X066067+X067070>=1	X001010+X010011>=1
X068069>=1	X011012+X012044>=1
X069070+X069073>=1	X012013+X013014+X013035>=1
X067070+X070071+X070074>=1	X013014+X014028>=1

X014015+X015019>=1	X048051+X051054>=1
X008017+X017022>=1	X051052+X052057>=1
X017018+X018021>=1	X043053+X053058>=1
X015019+X019020>=1	X049054+X049054+X054055>=1
X019020+X020026>=1	X050055+X055059>=1
X018021+X021022>=1	X052057+X057064>=1
X017022+X022023>=1	X055059+X059062>=1
X007023+X023024>=1	X060061+X061068>=1
X023024+X024026>=1	X059062+X062067>=1
X024025+X025042>=1	X056063+X063066>=1
X020026+X026027>=1	X057064+X064066>=1
X025027+X027028>=1	X058065+X065072>=1
X014028+X028029>=1	X063066+X064066+X066071>=1
X028029+X029030+X029042>=1	X062067+X067070>=1
X013030+X030031>=1	X068069+X069073>=1
X030031+X031034>=1	X067070+X069070+X070074>=1
X029032+X032033>=1	X066071+X070071+X071075>=1
X032033+X033041>=1	X065072+X072077>=1
X031034+X034037>=1	X069073+X073074>=1
X035036+X036038>=1	X070074+X073074+X074075>=1
X034037+X037040>=1	X071075+X074075+X075083>=1
X036038+X038046>=1	X075076+X076084>=1
X038039+X039043>=1	X072077+X077085>=1
X037040+X040041>=1	X078079+X079081>=1
X033041+X041042>=1	X074080+X079080+X080082>=1
X025042+X041042>=1	X080082+X082086>=1
X039043+X043047+X043090>=1	X075083+X080083+X083086>=1
X038046+X046047>=1	X076084+X084085>=1
X043047+X046047+X047048>=1	X077085+X085087>=1
X047048+X048051>=1	X082086+X086087>=1
X048049+X049054+X049054>=1	X008009+X008016+X008017>=1
X049050+X050060>=1	X012013+X013014+X013030>=1

X028029+X029030+X029032>=1	X067070+X069070+X070071>=1
X039043+X043047+X043053>=1	X066071+X070071+X071072>=1
X043047+X046047+X047090>=1	X070074+X073074+X074080>=1
X048049+X049054+X049050>=1	X071075+X074075+X075076>=1
X049054+X049054+X051054>=1	X074080+X079080+X080083>=1
X063066+X064066+X066067>=1	X075083+X080083+X083084>=1



Mapa 16

Min

80.6833X001002+43.0189X001111+217.45X001009+82.434X002003+112.406X002007+58.516
X003113+38.4328X004005+83.4331X004113+84.7945X005006+38.6929X005115+122.899X006
007+42.1207X006113+35.3566X006114+79.0296X007008+79.0295X007011+40.9542X008112+
74.4036X008010+40.9916X009010+42.0597X009019+94.9116X009112+78.2797X010011+121.
13X011012+39.8264X011017+97.66X012013+42.1569X012016+39.7879X012114+40.426X0130
14+42.8593X013115+51.6694X014015+160.32X014026+52.0149X015016+38.5908X015025+12
0.514X016017+41.5085X016024+69.6451X017018+45.5639X017022+51.5814X018019+42.895
X018021+41.4743X019020+56.609X020021+113.438X020032+65.3641X021022+110.471X0210
31+64.4751X022023+111.055X022030+58.5971X023024+109.911X023029+52.1949X024025+1
13.354X024028+111.635X025027+94.9103X026036+40.9039X026027+51.5204X027028+53.85
16X028029+85.3509X028035+64.421X029030+64.3468X030031+79.4722X030034+53.9402X03
1032+79.4722X032033+120.529X033034+122.711X034035+76.014X035036+113.316X036037+
60.1369X037116+96.6508X038116+29.2052X038039+104.095X039040+31.1715X040116+148.
27X040041+270.612X041042+190.336X042043+48.4066X042060+48.4069X043044+93.9232X0
43046+53.0348X043048+95.2076X044045+50.7199X045046+94.9514X046047+55.3516X04704
8+100.453X047051+51.0951X048049+184.044X048060+40.7417X049050+189.005X049059+52
.0478X050051+51.5737X050055+181.731X050058+154.052X051052+57.3499X052053+91.934
8X052067+53.9758X053054+60.5962X053067+42.5738X054055+52.0102X054065+122.923X05
5056+71.3707X056057+50.2262X056061+53.0345X057058+172.662X057073+50.6539X058059
+51.8767X059060+50.6321X061062+165.21X061065+54.3563X062063+65.7786X062072+51.3
814X063064+65.0144X063071+55.5117X064066+67.8193X064070+51.4711X065066+65.2033X
066069+112.371X067068+48.9049X068069+64.7252X068110+56.6675X069070+60.977X07010
6+53.0347X071072+62.5321X071105+68.1803X072073+65.2028X073074+61.65X074075+120.
037X074105+62.379X075076+175.824X075080+69.7217X076077+58.9947X076104+50.9914X0
77078+59.9243X077103+51.8013X078079+142.419X078100+62.2257X079080+115.241X07908
8+49.8409X080081+51.4709X081082+175.548X081087+51.4543X082083+174.485X082086+16
1.154X083084+145.012X083085+54.6352X084085+53.4994X085086+50.1415X086087+54.073
4X087088+30.6476X088089+22.8475X089090+84.0526X089100+126.305X090091+50.3996X09

0097+104.603X091092+51.6578X092093+50.3923X092117+146.781X093094+51.4151X094095
+97.9514X094110+89.5321X095096+49.6238X095109+92.0231X095117+49.2674X096097+111
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X099101+71.0124X099108+54.1207X100101+37.1196X101102+49.7418X102103+130.723X102
106+71.2828X103104+58.5419X104105+52.5371X105106+53.2948X106107+57.1651X107108+
73.2748X107110+92.4738X111112+85.6709X114115

S.T.

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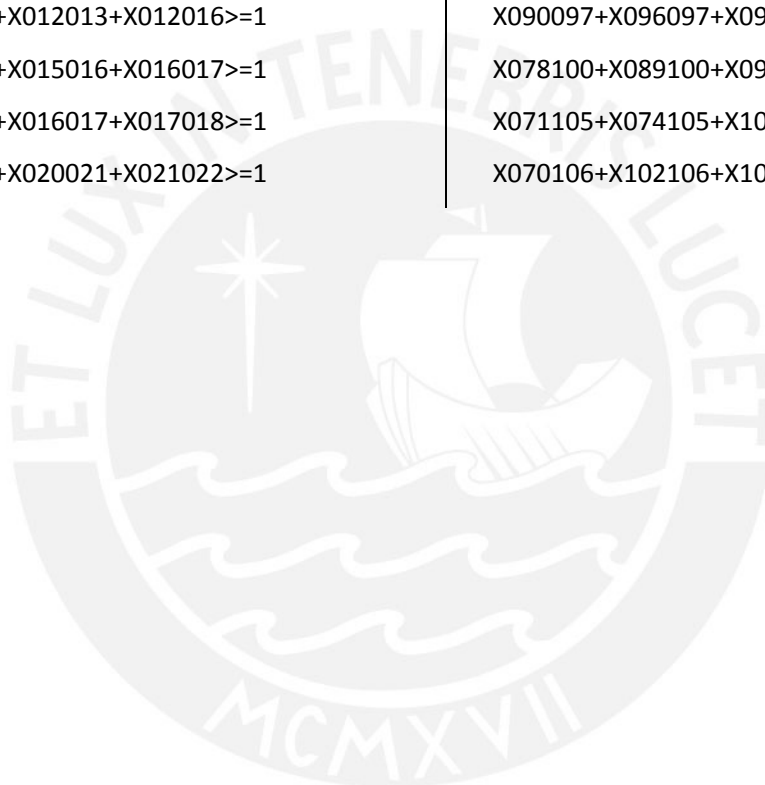
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Mapa 17

Min

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 9.9905X067083+50.4693X068069+104.499X069083+34.32829X070071+73.2729X070085+35.5
 29X071072+72.2106X071086+37.1714X072073+74.61X072087+36.7792X073074+72.6085X073
 088+34.9528X074076+73.4586X074089+31.3999X075077+36.6816X075076+71.9404X076090+
 34.9528X076078+38.4125X077078+34.2826X077079+71.3666X078091+37.2583X078080+70.2
 972X079080+67.0748X079081+70.6301X080092+42.8987X080082+43.2511X081082+71.2073X
 082093+37.3866X083084+35.0491X083084+37.593X084095+31.9923X084085+33.0413X08508
 6+72.3074X070085+34.1482X086087+34.7032X086097+33.1289X087099+38.3282X087088+68
 .7544X088100+38.9068X088089+33.6195X089090+38.6075X090102+34.3771X090091+35.355

5X091092+44.5633X092093+39.0816X092104+108.612X093118+162.352X094105+47.5851X09
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+33.6169X097099+35.4377X098111+72.1648X099198+31.4X100198+38.7465X100101+35.193
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116+69.0561X104117+53.8512X105106+105.141X106122+49.8678X106107+56.26677X107108
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.8761X199200+103.514X173200+53.6096X165200

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X065066+X065069>=1	X086097+X097098+X097099>=1
X065066+X066067>=1	X097098+X098111>=1
X066067+X067083>=1	X097099+X099198>=1
X061068+X068069>=1	X100198+X100101>=1
X068069+X069083>=1	X101102+X101114>=1
X070071+X070085+X070194>=1	X090102+X102103+X102115>=1
X029071+X071072+X071086>=1	X103104+X103116>=1
X072073+X072087>=1	X103104+X104117>=1
X073074+X073088>=1	X094105+X105106>=1
X074076+X074089>=1	X106122+X106107>=1
X075077+X075076>=1	X107108+X107123>=1
X074076+X076090+X076078>=1	X108109+X108124>=1
X077078+X077079>=1	X094109+X109126+X109110>=1
X076078+X078091+X078080>=1	X096110+X110128+X110111>=1
X079080+X079081>=1	X098111+X111130+X111112>=1
X078080+X080092+X080082>=1	X112131+X112113>=1
X079081+X081082>=1	X113114+X113132>=1
X081082+X082093>=1	X101114+X114115+X114133>=1
X067083+X083084+X083084>=1	X102115+X115116+X115134>=1
X028084+X083084+X084095>=1	X103116+X116136+X116117>=1
X070085+X085086+X070085>=1	X104117+X117137+X117118>=1
X071086+X086087+X086097>=1	X117118+X118140>=1
X072087+X087099+X087088>=1	X119120+X119121>=1
X073088+X088100+X088089>=1	X120158+X120125>=1
X088089+X089090>=1	X119121+X121122>=1
X076090+X090102+X090091>=1	X121122+X122123>=1
X090091+X091092>=1	X122123+X123124>=1
X080092+X092093+X092104>=1	X123124+X124125>=1
X092093+X093118>=1	X120125+X125127+X125149>=1
X094109>=1	X126127+X126128>=1

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X126128+X128130>=1	X159160+X160161>=1
X129147+X129142>=1	X151161+X161162+X161163>=1
X128130+X130131>=1	X161162+X162164>=1
X112131+X131142+X131132>=1	X163164+X163199>=1
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X133144+X133135>=1	X165166+X165200>=1
X134135+X134136>=1	X157166+X166167+X166171>=1
X134135+X135138>=1	X167168+X167170>=1
X134136+X136137>=1	X167168+X168169>=1
X136137+X137138>=1	X169192+X169170>=1
X137138+X138139>=1	X167170+X170189+X170171>=1
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X140141>=1	X171172+X172173+X172183>=1
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X143145+X143144>=1	X159175+X175180+X175176>=1
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X070194+X029194>=1	X033034+X034195>=1
X054195+X055195>=1	X034035+X035036>=1
X176197+X159197>=1	X021036+X035036+X036050>=1
X100198>=1	X036037+X037047>=1
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X027028+X028084>=1	X062063+X063066>=1
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X078080+X079080+X080082>=1	X112113+X113132>=1
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X071086+X085086+X086097>=1	X058119+X119121>=1
X072087+X086087+X087088>=1	X119120+X120125>=1
X073088+X087088+X088089>=1	X060121+X121122>=1
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X076090+X089090+X090091>=1	X107123+X123124>=1
X078091+X091092>=1	X108124+X124125>=1
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X084095+X095097>=1	X125127+X127129>=1
X095096+X096098>=1	X110128+X128130>=1
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X112131+X130131+X131132>=1	X168169+X169170>=1
X113132+X132143>=1	X167170+X169170+X170171>=1
X114133+X133135>=1	X166171+X171172>=1
X115134+X134136>=1	X171172+X172200+X172183>=1
X133135+X135138>=1	X172173+X173174+X173183>=1
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X159160+X159197>=1	X028194+X029194>=1
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X157166+X165166+X166171>=1	X025027+X026027+X027028>=1
X166167+X167170>=1	X023033+X032033+X033034>=1

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X040043+X042043+X043044>=1	X096110+X109110+X110128>=1
X038045+X042045+X045046>=1	X098111+X110111+X111130>=1
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X053058+X057058+X058119>=1	X102115+X114115+X115116>=1
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X070071+X070085+X070085>=1	X120125+X124125+X125127>=1
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X080092+X091092+X092093>=1	X175176+X176177+X176179>=1
X086097+X095097+X097098>=1	X163199+X173199+X174199>=1
X090102+X101102+X102103>=1	X164200+X172200+X199200>=1

Mapa 18

Min

65.11X001002+234.93X001059+103.92X002003+58.98X002055+61.86X003004+53.94X003052
+161.74X004005+100.64X004051+48.98X005006+98.75X005042+50.23X006007+183.14X0060
41+115.91X007008+57.16X007038+275.51X008009+54.36X008035+53.2X009010+135.79X009
022+177.68X010011+127.72X010023+54.45X011012+79.23X011023+105.07X012013+133.58X
012021+186.56X012015+129.28X013021+131.27X013019+89.13X013014+104.52X014018+176
.85X014017+54.74X014015+215.9X015016+56.37X016017+203.27X016074+102.85X017027+5
2.83X018019+169.34X018026+175.2X019025+51.3X019020+49.74X020021+172.66X020024+5
0.33X021022+51.38X022023+52.72X024033+52.54X024025+51.22X025026+68.72X026027+52.
1X027028+54.31X028029+182.24X028033+58.81X029074+100.11X029072+87.14X029030+111
.2X030071+56.59X030031+166.9X031046+49.19X031032+52.72X032033+63.19X032040+74.52
X034035+54.36X034037+53.29X035036+75.19X036037+63.86X037039+73.94X038039+53.11X
039040+46.96X040041+52.05X041045+50.42X042043+82.2X042045+54.54X043044+133.67X0
43048+57.91X044051+132.25X044049+52.72X045046+51.57X046048+54.85X046047+57.42X0
47071+161.52X047069+51.6X048049+56.37X049050+135.49X050051+53.78X050069+53.03X0
52053+105.25X052055+104.67X053056+129.85X053054+107.16X054057+53.61X054070+50.5
7X055056+128.12X056057+50.8X057060+54.85X058059+56.67X059060+50.88X059061+107.4
7X060070+58.54X061062+223.95X061068+52.78X062063+205.49X062067+84.94X063064+189
.35X063066+109.41X064065+47.79X065066+244.66X065073+49.65X066067+53.69X067068+4
7.83X068069+64.85X069070+105.3X071072+56.71X072073

S.T.

X001002+X002003+X002055>=2	X009010+X010011+X010023>=2
X002003+X003004+X003052>=2	X010011+X011012+X011023>=2
X003004+X004005+X004051>=2	X011012+X012013+X012021+X012015>=2
X004005+X005006+X005042>=2	X012013+X013021+X013019+X013014>=2
X005006+X006007+X006041>=2	X013014+X014018+X014017+X014015>=2
X006007+X007008+X007038>=2	X012015+X014015+X015016>=2
X007008+X008009+X008035>=2	X015016+X016017+X016074>=2
X008009+X009010+X009022>=2	X014017+X016017+X017027>=2

X014018+X018019+X018026>=2	X052053+X053056+X053054>=2
X013019+X018019+X019025+X019020>=2	X053054+X054057+X054070>=2
X019020+X020021+X020024>=2	X002055+X052055+X055056>=2
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X009022+X021022+X022023>=2	X054057+X056057+X057060>=2
X010023+X011023+X022023>=2	X058059>=1
X020024+X024033+X024025>=2	X001059+X058059+X059060+X059061>=2
X019025+X024025+X025026>=2	X057060+X059060+X060070>=2
X018026+X025026+X026027>=2	X059061+X061062+X061068>=2
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X028029+X029074+X029072+X029030>=2	X064065+X065066+X065073>=2
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X005042+X042043>=1	X001059>=1
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X013019+X019025+X019020>=1	X044051+X050051>=1
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X012021+X020021+X021022>=1	X053056+X053054>=1
X021022+X022023>=1	X054057+X054070>=1
X011023+X022023>=1	X052055+X055056>=1
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X024025+X025026>=1	X056057+X057060>=1
X025026+X026027>=1	X001059+X059060+X059061>=1
X026027+X027028>=1	X059060+X060070>=1
X028029+X028033>=1	X061062+X061068>=1
X028029+X029072+X029030>=1	X062063+X062067>=1
X030071+X030031>=1	X063064+X063066>=1
X031046+X031032>=1	X064065>=1
X032033+X032040>=1	X065066+X065073>=1
X028033+X032033>=1	X065066+X066067>=1
X034037>=1	X066067+X067068>=1
X034035+X035036>=1	X067068+X068069>=1
X036037>=1	X047069+X068069+X069070>=1

X060070+X069070>=1	X028029+X029074+X029030>=1
X047071+X071072>=1	X029030+X030031>=1
X071072+X072073>=1	X030031+X031032>=1
X072073>=1	X031032+X032040>=1
X029074>=1	X024033+X032033>=1
X001002+X002055>=1	X008035+X035036>=1
X002003+X003052>=1	X034037+X037039>=1
X003004+X004051>=1	X037039+X039040>=1
X004005+X005042>=1	X032040+X040041>=1
X005006+X006041>=1	X006041+X041045>=1
X006007+X007038>=1	X005042+X042045>=1
X007008+X008035>=1	X042043+X043048>=1
X008009+X009022>=1	X043044+X044049>=1
X009010+X010023>=1	X041045+X045046>=1
X010011+X011023>=1	X031046+X045046+X046047>=1
X011012+X012013+X012015>=1	X046047+X047069>=1
X012013+X013021+X013014>=1	X043048+X048049>=1
X013014+X014018+X014015>=1	X044049+X049050>=1
X012015+X015016>=1	X049050+X050069>=1
X015016+X016074>=1	X004051+X050051>=1
X014017+X017027>=1	X003052+X052055>=1
X014018+X018026>=1	X052053+X053054>=1
X013019+X018019+X019020>=1	X053054+X054070>=1
X019020+X020024>=1	X002055+X055056>=1
X012021+X013021+X021022>=1	X053056+X056057>=1
X009022+X022023>=1	X054057+X057060>=1
X010023+X022023>=1	X001059+X058059+X059061>=1
X020024+X024025>=1	X057060+X060070>=1
X019025+X025026>=1	X059061+X061068>=1
X018026+X026027>=1	X061062+X062067>=1
X017027+X027028>=1	X062063+X063066>=1
X027028+X028033>=1	X064065+X065073>=1

X063066+X066067>=1	X012013+X013021+X013019>=1
X062067+X067068>=1	X013014+X014018+X014017>=1
X061068+X068069>=1	X013019+X018019+X019025>=1
X047069+X050069+X069070>=1	X012021+X013021+X020021>=1
X054070+X069070>=1	X028029+X029074+X029072>=1
X030071+X071072>=1	X031046+X045046+X046048>=1
X029072+X072073>=1	X001059+X058059+X059060>=1
X011012+X012013+X012021>=1	X047069+X050069+X068069>=1



Anexo 8. Conjunto solución del LINGO

Ruta	Arcos sugeridos					
1	X002003,	X002004,	X003005,	X004006,	X005008,	X006007,
	X007010,	X008011,	X009010,	X009013,	X010014,	X011015,
	X012016,	X012013,	X013017,	X014018,	X015019,	X016020,
	X017021,	X018022,	X019023,	X020024,	X021025,	X022026,
	X023027,	X024028,	X025029,	X026030,	X027031,	X028032,
	X029033,	X030034,	X031035,	X032036,	X033037,	X034038,
	X035039,	X036040,	X037041,	X038042,	X039043,	X040044,
	X041045,	X042046,	X043047,	X044048,	X045049,	X046050,
	X047051,	X048056,	X049057,	X050058,	X051059,	X052053,
	X052060,	X053061,	X054055,	X054062,	X055063,	X056064,
	X057065,	X058066,	X059067,	X060068,	X061069,	X062070,
	X063070,	X064071,	X065072,	X066073,	X067075,	X068076,
	X069077,	X070078,	X071079,	X072080,	X073081,	X074082,
	X075085,	X076084,	X077085,	X078086,	X079087,	X080088,
	X081089,	X082083,	X082090,	X083091,	X084092,	X086094,
	X087095,	X088096,	X089097,	X090098,	X091099,	X092093,
	X093101,	X094102,	X095103,	X096104,	X097105,	X098106,
	X099107,	X100101,	X100116,	X102108,	X103104,	X105111,
	X106107,	X108109,	X109113,	X110111,	X110114,	X112118,
	X112113,	X114115,	X115119,	X116117,	X117118,	X119120,
	X120125,	X121122,	X121126,	X122123,	X123218,	X124125,
	X125132,	X126128,	X127128,	X128135,	X129130,	X130218,
	X131132,	X133138,	X134144,	X135144,	X136137,	X138139,
	X139141,	X140141,	X141142,	X142143,	X143219,	X145146,
	X146151,	X147152,	X147148,	X149150,	X150219,	X151159,
	X152160,	X153154,	X153155,	X155156,	X157164,	X158159,
	X159168,	X160161,	X154162,	X161163,	X165166,	X166169,
	X164167,	X168171,	X169177,	X170171,	X172178,	X173179,
	X174181,	X174175,	X175176,	X176177,	X178185,	X172179,
	X180189,	X181200,	X181182,	X182183,	X183184,	X184185,
	X185186,	X187188,	X188192,	X188189,	X190191,	X191194,
	X192193,	X193196,	X194197,	X194195,	X195196,	X197198,
	X199219,	X200201,	X201202,	X202203,	X203204,	X205210,
	X206211,	X206207,	X207208,	X209210,	X211212,	X212215,
	X213214,	X214215,	X215216,	X124218,		
2	X001002,	X001004,	X002003,	X003005,	X004007,	X005008,
	X006008,	X006019,	X007009,	X008020,	X009010,	X010012,
	X011013,	X011016,	X012023,	X013018,	X014017,	X014018,
	X015016,	X015017,	X019021,	X020022,	X021033,	X022024,
	X023024,	X025026,	X025154,	X026035,	X027030,	X027028,
	X027036,	X028029,	X029032,	X030031,	X031032,	X033038,
	X034038,	X034154,	X035044,	X036044,	X037044,	X037045,
	X039040,	X039046,	X040041,	X041042,	X041047,	X042043,
	X043058,	X044060,	X045053,	X046054,	X047055,	X048049,
	X048051,	X049050,	X050078,	X051052,	X052062,	X053059,
	X054055,	X056057,	X056059,	X057069,	X058070,	X060061,
	X061063,	X062063,	X063064,	X064065,	X065066,	X066067,
	X067068,	X068069,	X069070,	X069073,	X071072,	X071076,
	X072093,	X073074,	X074075,	X075077,	X076077,	X078079,
	X079080,	X079081,	X080086,	X081082,	X082085,	X083084,
	X083107,	X084085,	X086088,	X087088,	X087094,	X088099,
	X089090,	X089095,				

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3	X001002, X001175, X002175, X003005, X003004, X004005, X004007, X005006, X006007, X008174, X008009, X009011, X010174, X010015, X011013, X012014, X013016, X015018, X016017, X017019, X018022, X019020, X020021, X021053, X022023, X023024, X023025, X024025, X024026, X025028, X026027, X027029, X028030, X029031, X030035, X031032, X032033, X033047, X034035, X034048, X034093, X036037, X036046, X037038, X037040, X038039, X038040, X039040, X041043, X041042, X042045, X043044, X044045, X045103, X046047, X047099, X047049, X048049, X050053, X050051, X051052, X052062, X052093, X054057, X054055, X055056, X056059, X057059, X057058, X057063, X058066, X060061, X060085, X061062, X063064, X064065, X065067, X066067, X068069, X068080, X069079, X070071, X070072, X071073, X072073, X074075, X074076, X075147, X076077, X077132, X078132, X079124, X080081, X080089, X081082, X082083, X083084, X084085, X086087, X086090, X087088, X088092, X089090, X091123, X092095, X094096, X094095, X096107, X097098, X097107, X098100, X099100, X101104, X101102, X102103, X104105, X105106, X108109, X108110, X109111, X110112, X111113, X112120, X113119, X114115, X106114, X115116, X116117, X117118, X118119, X120121, X121122, X122157, X123127, X091124, X125126, X125128, X126127, X078128, X129130, X129131, X130157, X131135, X133134, X133139, X134137, X135136, X136151, X137142, X138140, X138141, X139140, X141142, X142143, X143144, X144146, X145150, X145146, X147148, X148149, X149150, X151153, X152153, X152154, X153155, X154158, X155156, X156161, X158159, X159163, X160161, X160162, X162171, X163165, X164167, X164165, X165166, X166171, X167168, X168169, X169170, X170173, X171172, X172173, X003175
4	X001002, X001006, X002003, X003004, X004005, X004011, X005009, X005011, X006007, X007041, X008016, X008040, X009010, X010015, X011012, X012013, X012014, X013015, X014020, X016017, X017018, X018019, X019025, X020163, X021162, X021032, X022023, X023026, X023027, X024025, X024026, X026027, X027030, X028029, X029030, X030038, X031033, X031036, X032033, X034035, X034159, X035090, X036037, X037039, X038057, X039160, X040042, X041045, X042044, X043044, X043051, X044045, X046047, X046062, X048049, X048165, X049050, X050051, X052053, X052056, X053054, X054055, X055058, X056057, X057069, X058068, X059060, X059076, X060061, X061164, X062063, X062064, X063066, X064065, X065066, X067078, X067101, X068072, X069070, X070071, X071074, X072073, X073075, X074075, X075099, X076077, X077078, X079080, X079086, X080081, X081082, X082083, X083084, X084085, X085086, X087118, X087088, X088089, X089090, X090091, X091092, X092113, X093111, X093094, X094095,

	X095096, X102103, X110112, X117118, X124157, X130131, X136137, X143145, X150151, X148158, X047165, X102166	X097098, X103104, X111112, X119120, X124132, X131144, X137138, X144167, X151154, X093159,	X097105, X104107, X113114, X119126, X125126, X132133, X139140, X144156, X152153, X096160,	X098106, X106161, X114130, X120121, X126127, X133146, X139141, X146158, X152154, X108161,	X099105, X107142, X115130, X121122, X127128, X134147, X140144, X147150, X154155, X028162,	X100101, X108109, X115116, X122123, X128129, X134135, X141145, X148149, X155156, X022163,	X100166, X109110, X116117, X123157, X129138, X135136, X142167, X149153, X125157, X063164,
5	X001002, X007016, X013029, X021022, X027028, X034040, X042044, X048049, X056057, X063064, X069074, X077083, X083084, X017093, X100103, X101104, X101102, X102105, X104105, X055106	X001007, X008009, X014015, X021024, X028034, X034044, X045046, X049057, X058059, X063068, X070071, X078079, X084086, X015093,	X002003, X009010, X015016, X022033, X030031, X035036, X045048, X050051, X058062, X064069, X071072, X079080, X086087, X094106,	X003006, X010011, X017018, X023024, X030032, X038039, X046052, X050053, X059060, X065066, X072073, X080081, X087091, X094096,	X004008, X011012, X018019, X025026, X031035, X039097, X047052, X053054, X060061, X065070, X073074, X081082, X085089, X096097,	X004005, X012013, X019020, X025029, X032036, X040041, X047051, X054062, X061075, X066067, X075076, X082100, X085090, X090099,	X005006, X013014, X020023, X026027, X033038, X041042, X048056, X055088, X062076, X067068, X077078, X082103, X089090, X088099,
6	X001002, X007008, X014015, X020021, X027028, X033034, X040041, X047048, X054055, X061062, X066067, X075076, X081082	X001038, X008009, X015016, X021021, X028029, X034035, X041042, X048049, X055072, X061068, X067068, X074076,	X002003, X009010, X016017, X022023, X029030, X035036, X041043, X049050, X056082, X062063, X069070,	X003004, X010011, X016022, X023024, X030031, X036037, X043044, X050051, X056057, X063064, X070071,	X004005, X011012, X017018, X024025, X031042, X037077, X044045, X051052, X058080, X064065, X071072,	X005006, X013014, X018019, X025026, X032033, X038045, X046054, X051059, X058060, X065069, X073075,	X006007, X013078, X019020, X026027, X032039, X039040, X046047, X052053, X059060, X065066, X073074, X053081,
7	X001002, X006011, X013037, X018047, X023025, X030034, X037038, X044045, X051052, X056062, X064090, X071072,	X001004, X007008, X014039, X019049, X025026, X031032, X038091, X045060, X052053, X057058, X065066,	X002003, X008009, X015016, X020021, X026028, X032033, X039091, X046047, X053054, X058059, X066067,	X002005, X009010, X015040, X020052, X027028, X033034, X040041, X047048, X054065, X059061, X067068,	X003012, X010011, X016017, X021031, X027075, X034035, X041042, X048049, X055063, X060061, X069070,	X004005, X011012, X017046, X022023, X029030, X036096, X042043, X050051, X055067, X062063, X069071,	X006007, X013014, X018019, X022024, X029035, X036100, X043044, X050057, X056057, X064068, X070089,
	X077078, X074079, X075076,	X073074,	X074079,	X075076,	X076084,	X077078,	

	X077082, X083085, X093094, X099102, X101102, X102103	X078079, X086087, X094095, X101102, X102103	X080081, X087088, X095103, X096097, X097098, X098101, X099100, X101102, X102103	X080085, X088089, X096097, X097098, X098101, X099100, X101102, X102103	X080086, X088090, X097098, X098101, X099100, X101102, X102103	X081082, X091092, X098101, X099100, X101102, X102103	X083084, X092093, X099100, X101102, X102103
8	X001002, X005007, X012013, X019045, X025031, X032035, X036043, X044076, X051052, X057060, X067133, X074076, X081083, X088089, X094111, X102103, X108131, X114135, X120121, X127128, X127136, X128129, X130132, X131137	X001003, X006014, X014015, X020046, X026039, X033034, X037038, X045046, X053055, X058059, X067072, X077078, X083084, X089090, X095100, X104105, X108113, X115131, X121122, X127136, X128129, X130132, X131137	X002016, X007008, X015016, X021022, X027028, X033049, X038039, X047048, X053058, X059073, X068069, X078079, X084101, X090096, X095096, X104132, X109110, X115122, X123126, X128129, X130132, X131137	X003004, X008138, X017018, X021026, X028029, X034050, X040041, X047052, X054055, X060070, X069074, X079082, X084103, X091093, X097098, X105106, X110117, X116118, X123124, X129143, X130132, X131137	X003010, X009013, X017024, X022023, X028030, X034068, X040081, X048051, X054066, X061062, X070071, X080081, X085086, X091097, X098099, X106134, X111112, X117135, X124125, X129130, X130132, X131137	X004009, X010011, X018030, X023092, X029049, X035044, X041042, X050068, X056057, X062065, X071072, X080082, X086087, X092094, X099100, X107134, X112116, X118119, X125130, X130132, X131137	X005006, X011012, X019020, X024025, X031032, X036037, X042043, X050133, X056061, X065066, X073074, X081085, X087088, X092093, X101102, X107109, X113114, X119120, X126129, X130132, X131137
9	X001002, X006092, X011012, X017018, X023024, X028029, X033034, X039042, X046062, X051058, X057140, X064065, X071081, X078079, X083084, X090091, X098103, X105135, X111112, X118120, X125126, X134135, X136137	X001136, X006007, X012071, X018019, X023025, X030031, X034035, X040041, X046059, X052053, X057069, X065066, X072073, X078083, X084107, X091092, X099100, X106107, X112113, X119123, X126127, X136137	X002003, X007090, X013014, X019020, X024034, X030051, X035036, X040117, X047061, X053054, X059060, X066109, X073074, X079142, X085086, X093101, X100102, X106134, X113114, X120121, X127128, X136137	X003096, X008009, X013070, X020029, X025026, X030052, X036037, X041042, X048049, X054055, X060141, X067141, X074075, X080081, X085105, X094095, X101102, X108132, X114115, X121143, X129143, X136137	X004094, X008089, X014015, X020021, X025026, X031050, X037038, X043047, X048058, X055140, X061062, X067068, X075076, X080142, X086087, X095096, X102103, X108133, X115116, X122123, X129130, X136137	X004005, X009010, X015016, X021022, X027028, X032139, X038139, X044045, X049050, X056070, X062063, X068069, X076077, X082088, X087088, X097098, X104105, X110111, X116117, X122128, X130131, X136137	X005093, X010011, X016017, X022138, X027138, X032044, X039043, X045047, X051052, X056140, X063064, X071072, X077109, X082084, X088089, X097099, X104124, X110133, X118119, X124125, X131132, X136137
10	X001002, X004008, X014015, X021024, X028029	X001003, X008009, X015016, X020025, X029030	X002004, X009010, X013017, X016026, X030031	X004005, X010011, X018019, X025027, X024032	X005006, X011012, X020021, X026027, X031033	X003007, X012013, X018022, X017028, X032033	X006007, X011014, X022023, X027029, X028034

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12	X001002, X005021, X012013, X017018, X023024, X031033, X038040, X044045, X049052, X057058, X062063, X069079, X075076, X082083, X088089, X095096, X102103, X109110, X117118, X124125, X130132, X137140, X143145, X150151, X148156,	X001011, X006007, X012038, X018019, X025029, X032044, X039040, X045046, X050051, X057064, X063163, X070071, X076077, X083084, X089090, X096113, X103109, X111146, X119122, X125126, X131133, X137139, X143162, X150157,	X002010, X007008, X013032, X019020, X026027, X033034, X039043, X046047, X051068, X058059, X064065, X071075, X077078, X084102, X090118, X097098, X104105, X111112, X119120, X126127, X132135, X138139, X144161, X151152,	X003004, X008016, X014015, X020025, X027028, X035036, X041042, X047048, X052053, X059164, X065067, X072074, X078079, X085097, X091092, X098099, X105106, X113115, X120121, X127128, X133134, X139142, X146147, X152159,	X003008, X009010, X014031, X020024, X028029, X036037, X042043, X047049, X053055, X060061, X066067, X072073, X080081, X086095, X091117, X099100, X106107, X114115, X121164, X128129, X134138, X140141, X147156, X153154,	X004005, X009014, X015026, X021022, X030034, X037046, X042050, X048054, X054056, X060163, X068069, X073086, X080104, X087088, X092093, X100101, X107108, X114116, X121123, X129130, X135136, X141142, X110149, X153155,	X005006, X011041, X016017, X022023, X030035, X037048, X043045, X049050, X055056, X061062, X069070, X074085, X081082, X087094, X093094, X101112, X108110, X116122, X123124, X129131, X136145, X143144, X149154, X148155,
	X157158, X158160, X159160, X161162, X066164						

13	X001002, X007008, X012013, X018029, X024129, X031032, X038039, X043044, X049050, X054057, X060061, X066067, X073074, X080128, X086088, X090099, X100101, X106108, X113127, X119120, X128129, X128134	X001005, X007119, X012019, X019020, X025026, X032033, X039076, X044045, X050132, X055056, X061062, X067070, X075076, X081082, X086135, X091097, X100133, X107108, X114115, X120121, X128134	X002003, X008130, X013014, X020021, X026130, X033034, X040041, X045047, X051052, X056063, X061098, X068069, X077078, X082083, X087088, X092093, X101102, X109110, X114125, X121122	X003004, X009010, X014015, X021022, X027028, X034035, X040075, X046048, X051132, X057058, X062063, X069095, X077094, X083084, X087092, X093094, X102103, X109112, X115116, X122126	X004005, X009130, X015016, X022023, X028074, X035036, X041048, X046131, X052053, X058059, X064065, X070071, X078079, X084085, X089090, X095096, X103104, X110111, X116117, X123124	X006007, X010011, X016017, X023027, X029030, X036037, X042043, X047048, X053054, X058133, X064068, X071072, X079134, X085135, X089107, X096097, X104105, X111136, X117118, X124125	X006118, X011012, X017018, X024025, X030031, X037038, X042131, X048049, X054055, X059060, X065066, X072073, X080081, X085136, X090091, X098099, X105106, X112113, X117123, X126127
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16	X001002,	X001111,	X002003,	X003113,	X004005,	X004113,	X005115,
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	X010011,	X012016,	X012114,	X013014,	X013115,	X014015,	X015025,
	X016024,	X017018,	X017022,	X018021,	X019020,	X020021,	X022023,
	X023024,	X024025,	X026036,	X026027,	X027028,	X028029,	X029030,
	X030031,	X031032,	X032033,	X033034,	X034035,	X035036,	X036037,
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	X043044,	X043048,	X044045,	X045046,	X046047,	X047051,	X048049,
	X049050,	X050051,	X050055,	X052053,	X052067,	X053067,	X054055,
	X054065,	X056057,	X056061,	X057058,	X058059,	X059060,	X061062,
	X062063,	X063064,	X064066,	X065066,	X068069,	X068110,	X069070,
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	X082083,	X083084,	X084085,	X085086,	X086087,	X087088,	X088089,
	X089090,	X089100,	X090091,	X091092,	X092093,	X092117,	X093094,
	X094095,	X095109,	X096097,	X096117,	X097098,	X098109,	X099101,
	X099108,	X100101,	X101102,	X102103,	X104105,	X105106,	X107108,
	X107110,	X111112					
17	X001002,	X001003,	X002005,	X003004,	X004007,	X005006,	X006010,
	X007008,	X007011,	X008009,	X009013,	X010015,	X011012,	X012013,
	X014015,	X014016,	X015018,	X016017,	X017018,	X019020,	X019024,
	X020023,	X021022,	X021036,	X022023,	X024025,	X025032,	X026030,
	X026027,	X027028,	X027068,	X028194,	X029030,	X031081,	X031075,
	X032033,	X033059,	X034035,	X034195,	X035054,	X036037,	X037038,
	X038039,	X039042,	X040041,	X040043,	X041044,	X042043,	X044049,
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	X050054,	X051052,	X052053,	X055056,	X056057,	X057058,	X059061,
	X058060,	X060064,	X061062,	X062063,	X063064,	X065066,	X065069,
	X066067,	X067083,	X068069,	X070071,	X070085,	X071072,	X072073,
	X073074,	X074076,	X075077,	X076078,	X077079,	X078080,	X079081,
	X080082,	X082093,	X083084,	X084095,	X085086,	X086087,	X087088,
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	X094109,	X095096,	X096110,	X097098,	X097099,	X098111,	X099198,
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	X128130,	X129147,	X129142,	X130131,	X131142,	X131132,	X132143,
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	X146154,	X148149,	X148152,	X150160,	X150151,	X151152,	X153154,
	X153155,	X155157,	X155156,	X156165,	X156157,	X157166,	X158197,
	X159160,	X161162,	X161163,	X162164,	X163199,	X164200,	X166167,
	X167168,	X169192,	X169170,	X170171,	X171172,	X172173,	X172183,
	X173174,	X173183,	X174175,	X175176,	X176177,	X177178,	X178179,
	X179180,	X180181,	X181182,	X182184,	X183184,	X185193,	X186187,
	X186189,	X187188,	X185188,	X189190,	X190191,	X191192,	X192193,
	X029194,	X055195,	X159197,	X199200,	X165200		

18	X001002,	X001059,	X002055,	X003004,	X003052,	X004051,	X005006,
	X005042,	X006007,	X007008,	X007038,	X008035,	X009010,	X009022,
	X010023,	X011012,	X011023,	X012013,	X012015,	X013014,	X014015,
	X016017,	X016074,	X017027,	X018019,	X018026,	X019020,	X020021,
	X021022,	X024033,	X024025,	X025026,	X027028,	X028029,	X029074,
	X029030,	X030031,	X031032,	X032033,	X034035,	X034037,	X035036,
	X036037,	X038039,	X039040,	X040041,	X041045,	X042043,	X043044,
	X044051,	X045046,	X046048,	X046047,	X047071,	X048049,	X049050,
	X050069,	X052053,	X053056,	X054057,	X054070,	X055056,	X057060,
	X058059,	X059061,	X060070,	X061062,	X062063,	X063064,	X064065,
	X065066,	X065073,	X066067,	X067068,	X068069,	X071072,	X072073

Elaboración propia



Anexo 9. Solución en LINGO

Mapa 1

Global optimal solution found.

Objective value: 11898.04

Infeasibilities: 0.000000

Total solver iterations: 278

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X015019	1.000000	0.000000
X001003	1.000000	0.000000	X016017	0.000000	16.22000
X002003	0.000000	0.000000	X016020	1.000000	0.000000
X002004	1.000000	0.000000	X017021	1.000000	0.000000
X003005	1.000000	0.000000	X017018	0.000000	24.59000
X004005	0.000000	51.48000	X018019	0.000000	27.41000
X004006	1.000000	0.000000	X018022	1.000000	0.000000
X005008	1.000000	0.000000	X019023	1.000000	0.000000
X006007	1.000000	0.000000	X020024	1.000000	0.000000
X006012	0.000000	0.000000	X020021	0.000000	15.22000
X007008	0.000000	0.000000	X021025	1.000000	0.000000
X007010	1.000000	0.000000	X021022	0.000000	6.740000
X008011	1.000000	0.000000	X022026	1.000000	0.000000
X009010	1.000000	0.000000	X022023	0.000000	0.000000
X009013	1.000000	0.000000	X023027	1.000000	0.000000
X010011	0.000000	37.97000	X024025	0.000000	22.43000
X010014	1.000000	0.000000	X024028	1.000000	0.000000
X011015	1.000000	0.000000	X025026	0.000000	22.90000
X012016	1.000000	0.000000	X025029	1.000000	0.000000
X012013	1.000000	0.000000	X026027	0.000000	9.770000
X013014	0.000000	11.44000	X026030	1.000000	0.000000
X013017	1.000000	0.000000	X027031	1.000000	0.000000
X014015	0.000000	0.000000	X028029	0.000000	0.000000
X014018	1.000000	0.000000	X028032	1.000000	0.000000
			X029030	0.000000	13.38000

X029033	1.000000	0.000000	X051059	1.000000	0.000000
X030031	0.000000	16.44000	X052053	1.000000	0.000000
X030034	1.000000	0.000000	X052060	1.000000	0.000000
X031035	1.000000	0.000000	X053054	0.000000	0.000000
X032033	0.000000	21.57000	X053061	1.000000	0.000000
X032036	1.000000	0.000000	X054055	1.000000	0.000000
X033034	0.000000	19.69000	X054062	1.000000	0.000000
X033037	1.000000	0.000000	X055063	1.000000	0.000000
X034035	0.000000	23.63000	X055056	0.000000	0.000000
X034038	1.000000	0.000000	X056057	0.000000	23.23000
X035039	1.000000	0.000000	X056064	1.000000	0.000000
X036037	0.000000	13.87000	X057058	0.000000	21.72000
X036040	1.000000	0.000000	X057065	1.000000	0.000000
X037038	0.000000	31.85000	X058066	1.000000	0.000000
X037041	1.000000	0.000000	X058059	0.000000	4.300000
X038039	0.000000	0.000000	X059067	1.000000	0.000000
X038042	1.000000	0.000000	X060061	0.000000	4.190000
X039043	1.000000	0.000000	X060068	1.000000	0.000000
X040041	0.000000	6.380000	X061062	0.000000	0.000000
X040044	1.000000	0.000000	X061069	1.000000	0.000000
X041042	0.000000	0.000000	X062063	0.000000	1.240000
X041045	1.000000	0.000000	X062070	1.000000	0.000000
X042043	0.000000	9.130000	X063064	0.000000	5.520000
X042046	1.000000	0.000000	X063070	1.000000	0.000000
X043047	1.000000	0.000000	X064065	0.000000	22.69000
X044045	0.000000	7.450000	X064071	1.000000	0.000000
X044048	1.000000	0.000000	X065066	0.000000	14.85000
X045046	0.000000	39.10000	X065072	1.000000	0.000000
X045049	1.000000	0.000000	X066073	1.000000	0.000000
X046047	0.000000	9.910000	X067075	1.000000	0.000000
X046050	1.000000	0.000000	X068069	0.000000	22.84000
X047051	1.000000	0.000000	X068076	1.000000	0.000000
X048049	0.000000	9.700000	X069070	0.000000	17.61000
X048056	1.000000	0.000000	X069077	1.000000	0.000000
X049050	0.000000	0.000000	X070071	0.000000	32.78000
X049057	1.000000	0.000000	X070078	1.000000	0.000000
X050051	0.000000	11.25000	X071072	0.000000	11.60000
X050058	1.000000	0.000000	X071079	1.000000	0.000000

X072073	0.000000	20.76000	X092100	0.000000	0.000000
X072080	1.000000	0.000000	X093094	0.000000	0.000000
X073074	1.000000	0.000000	X093101	1.000000	0.000000
X073081	1.000000	0.000000	X094095	0.000000	4.665000
X074075	0.000000	0.000000	X094102	1.000000	0.000000
X074082	1.000000	0.000000	X095096	0.000000	25.42000
X075085	1.000000	0.000000	X095103	1.000000	0.000000
X076077	0.000000	0.000000	X096097	0.000000	46.12000
X076084	1.000000	0.000000	X096104	1.000000	0.000000
X077078	0.000000	0.000000	X097098	0.000000	6.080000
X077085	1.000000	0.000000	X097105	1.000000	0.000000
X078079	0.000000	0.000000	X098099	0.000000	15.08000
X078086	1.000000	0.000000	X098106	1.000000	0.000000
X079080	0.000000	42.06000	X099107	1.000000	0.000000
X079087	1.000000	0.000000	X100101	1.000000	0.000000
X080081	0.000000	33.13000	X100116	1.000000	0.000000
X080088	1.000000	0.000000	X101102	0.000000	0.000000
X081082	0.000000	19.07000	X101117	0.000000	191.5150
X081089	1.000000	0.000000	X102103	0.000000	10.74500
X082083	1.000000	0.000000	X102108	1.000000	0.000000
X082090	1.000000	0.000000	X103104	1.000000	0.000000
X083091	1.000000	0.000000	X104105	0.000000	9.400000
X084085	0.000000	0.000000	X105106	0.000000	25.88000
X084092	1.000000	0.000000	X105111	1.000000	0.000000
X085086	0.000000	0.000000	X106107	1.000000	0.000000
X085093	0.000000	0.000000	X106111	0.000000	8.310000
X086087	0.000000	22.98500	X107120	0.000000	219.1100
X086094	1.000000	0.000000	X108109	1.000000	0.000000
X087088	0.000000	14.21000	X108112	0.000000	144.7650
X087095	1.000000	0.000000	X109110	0.000000	12.89000
X088089	0.000000	7.770000	X109113	1.000000	0.000000
X088096	1.000000	0.000000	X110111	1.000000	0.000000
X089090	0.000000	8.180000	X110114	1.000000	0.000000
X089097	1.000000	0.000000	X111115	0.000000	157.9500
X090091	0.000000	0.000000	X112118	1.000000	0.000000
X090098	1.000000	0.000000	X112113	1.000000	0.000000
X091099	1.000000	0.000000	X113114	0.000000	0.000000
X092093	1.000000	0.000000	X114115	1.000000	0.000000

X115119	1.000000	0.000000	X152160	1.000000	0.000000
X116121	0.000000	0.000000	X153154	1.000000	0.000000
X116117	1.000000	0.000000	X154161	0.000000	0.000000
X117118	1.000000	0.000000	X153155	1.000000	0.000000
X118119	0.000000	114.8600	X155156	1.000000	0.000000
X119120	1.000000	0.000000	X157164	1.000000	0.000000
X120125	1.000000	0.000000	X158159	1.000000	0.000000
X121122	1.000000	0.000000	X159168	1.000000	0.000000
X121126	1.000000	0.000000	X160161	1.000000	0.000000
X122123	1.000000	0.000000	X154162	1.000000	0.000000
X123218	1.000000	0.000000	X161163	1.000000	0.000000
X124125	1.000000	0.000000	X164166	0.000000	0.000000
X125132	1.000000	0.000000	X165166	1.000000	0.000000
X126128	1.000000	0.000000	X166169	1.000000	0.000000
X127128	1.000000	0.000000	X164167	1.000000	0.000000
X128135	1.000000	0.000000	X168171	1.000000	0.000000
X129130	1.000000	0.000000	X169177	1.000000	0.000000
X130218	1.000000	0.000000	X170171	1.000000	0.000000
X131132	1.000000	0.000000	X172178	1.000000	0.000000
X132146	0.000000	20.13000	X173179	1.000000	0.000000
X133138	1.000000	0.000000	X174181	1.000000	0.000000
X134144	1.000000	0.000000	X174175	1.000000	0.000000
X135144	1.000000	0.000000	X175176	1.000000	0.000000
X136137	1.000000	0.000000	X176177	1.000000	0.000000
X138139	1.000000	0.000000	X178185	1.000000	0.000000
X139141	1.000000	0.000000	X172179	1.000000	0.000000
X140141	1.000000	0.000000	X180189	1.000000	0.000000
X141142	1.000000	0.000000	X181200	1.000000	0.000000
X142143	1.000000	0.000000	X181182	1.000000	0.000000
X143219	1.000000	0.000000	X182183	1.000000	0.000000
X144219	0.000000	0.000000	X183184	1.000000	0.000000
X145146	1.000000	0.000000	X184185	1.000000	0.000000
X146151	1.000000	0.000000	X185186	1.000000	0.000000
X147152	1.000000	0.000000	X187188	1.000000	0.000000
X147148	1.000000	0.000000	X188192	1.000000	0.000000
X149150	1.000000	0.000000	X188189	1.000000	0.000000
X150219	1.000000	0.000000	X190191	1.000000	0.000000
X151159	1.000000	0.000000	X191194	1.000000	0.000000

X192193	1.000000	0.000000	14	0.000000	-20.60000
X193196	1.000000	0.000000	15	0.000000	-3.240000
X194197	1.000000	0.000000	16	0.000000	-14.57000
X194195	1.000000	0.000000	17	0.000000	0.000000
X195196	1.000000	0.000000	18	0.000000	-9.480000
X197198	1.000000	0.000000	19	0.000000	-30.94000
X199220	1.000000	0.000000	20	0.000000	-12.24000
X200201	1.000000	0.000000	21	0.000000	-31.68000
X201202	1.000000	0.000000	22	0.000000	-10.40000
X202203	1.000000	0.000000	23	0.000000	0.000000
X203204	1.000000	0.000000	24	0.000000	-21.66000
X205210	1.000000	0.000000	25	0.000000	0.000000
X206211	1.000000	0.000000	26	0.000000	-24.92000
X206207	1.000000	0.000000	27	0.000000	-26.13000
X207208	1.000000	0.000000	28	0.000000	0.000000
X209210	1.000000	0.000000	29	0.000000	-16.68000
X210211	0.000000	0.000000	30	0.000000	-5.950000
X211212	1.000000	0.000000	31	0.000000	-7.610000
X212215	1.000000	0.000000	32	0.000000	-14.34000
X213214	1.000000	0.000000	33	0.000000	-14.77000
X214215	1.000000	0.000000	34	0.000000	0.000000
X215216	1.000000	0.000000	35	0.000000	-24.36000
X124218	1.000000	0.000000	36	0.000000	-9.170000
			37	0.000000	-7.580000
			38	0.000000	-30.41000
			39	0.000000	-13.40000
			40	0.000000	-23.05000
			41	0.000000	-24.12000
			42	0.000000	0.000000
			43	0.000000	-9.030000
			44	0.000000	0.000000
			45	0.000000	0.000000
			46	0.000000	-21.74000
			47	0.000000	0.000000
			48	0.000000	0.000000
			49	0.000000	-28.14000
			50	0.000000	0.000000
			51	0.000000	-18.53000

Row	Slack or Surplus	Dual Price
1	11898.04	-1.000000
2	0.000000	-39.73000
3	0.000000	-23.55000
4	0.000000	0.000000
5	0.000000	-8.350000
6	0.000000	-21.16000
7	0.000000	-27.51000
8	0.000000	-21.01000
9	1.000000	0.000000
10	0.000000	0.000000
11	0.000000	-25.97000
12	1.000000	0.000000
13	0.000000	-26.10000

52	0.000000	-10.17000	90	0.000000	-13.07500
53	0.000000	-10.70000	91	0.000000	-22.04000
54	0.000000	-8.000000	92	0.000000	0.000000
55	0.000000	-28.41000	93	0.000000	-15.27000
56	0.000000	-1.440000	94	0.000000	-12.73000
57	0.000000	-28.10000	95	0.000000	0.000000
58	0.000000	-20.15000	96	0.000000	-23.39500
59	0.000000	0.000000	97	0.000000	-27.18500
60	0.000000	-25.50000	98	0.000000	-23.14500
61	0.000000	-25.00000	99	0.000000	-17.69000
62	0.000000	-11.47000	100	0.000000	-38.54000
63	0.000000	0.000000	101	0.000000	-12.00000
64	0.000000	-27.90000	102	0.000000	-13.74000
65	0.000000	0.000000	103	0.000000	-31.55000
66	0.000000	-26.52000	104	0.000000	0.000000
67	1.000000	0.000000	105	0.000000	-59.17000
68	0.000000	-15.56000	106	0.000000	0.000000
69	0.000000	-26.65000	107	0.000000	-65.81000
70	1.000000	0.000000	108	0.000000	0.000000
71	0.000000	-31.05000	109	0.000000	-56.86000
72	0.000000	-0.4500000	110	0.000000	-47.61000
73	0.000000	-2.715000	111	0.000000	0.000000
74	0.000000	-5.920000	112	0.000000	-6.840000
75	0.000000	-24.06000	113	0.000000	-53.83000
76	0.000000	-18.74000	114	0.000000	0.000000
77	0.000000	0.000000	115	0.000000	-46.40000
78	0.000000	-1.780000	116	0.000000	0.000000
79	1.000000	0.000000	117	0.000000	-20.11500
80	0.000000	-19.10500	118	1.000000	0.000000
81	0.000000	-3.995000	119	0.000000	-86.09000
82	0.000000	0.000000	120	1.000000	0.000000
83	0.000000	-6.520000	121	0.000000	0.000000
84	0.000000	-23.34000	122	0.000000	0.000000
85	0.000000	-19.99000	123	0.000000	-58.80000
86	0.000000	-24.04000	124	0.000000	-56.24000
87	0.000000	-22.35000	125	0.000000	-21.74000
88	0.000000	-14.29500	126	0.000000	0.000000
89	0.000000	-10.90500	127	0.000000	-53.95000

128	0.000000	-198.5500	166	1.000000	0.000000
129	1.000000	0.000000	167	0.000000	-60.99000
130	0.000000	0.000000	168	1.000000	0.000000
131	0.000000	0.000000	169	0.000000	-44.49000
132	0.000000	-122.7900	170	0.000000	0.000000
133	0.000000	0.000000	171	0.000000	-62.09000
134	0.000000	-54.91000	172	0.000000	0.000000
135	0.000000	-52.72000	173	0.000000	0.000000
136	0.000000	0.000000	174	0.000000	0.000000
137	0.000000	-47.90000	175	0.000000	0.000000
138	0.000000	-57.30000	176	1.000000	0.000000
139	1.000000	0.000000	177	0.000000	-4.120000
140	0.000000	0.000000	178	0.000000	0.000000
141	0.000000	-54.90000	179	0.000000	-48.60000
142	0.000000	-89.79000	180	1.000000	0.000000
143	0.000000	-6.540000	181	0.000000	-0.3100000
144	0.000000	0.000000	182	0.000000	0.000000
145	0.000000	-49.48000	183	1.000000	0.000000
146	0.000000	-105.7600	184	0.000000	0.000000
147	0.000000	0.000000	185	0.000000	0.000000
148	0.000000	0.000000	186	0.000000	0.000000
149	0.000000	-54.94000	187	0.000000	0.000000
150	1.000000	0.000000	188	0.000000	0.000000
151	1.000000	0.000000	189	0.000000	-3.570000
152	0.000000	-60.46000	190	1.000000	0.000000
153	0.000000	-69.29000	191	0.000000	0.000000
154	1.000000	0.000000	192	0.000000	0.000000
155	0.000000	-57.91000	193	0.000000	0.000000
156	1.000000	0.000000	194	0.000000	0.000000
157	0.000000	0.000000	195	0.000000	0.000000
158	0.000000	-59.82000	196	0.000000	-6.830000
159	0.000000	-57.86000	197	0.000000	0.000000
160	0.000000	-205.4900	198	0.000000	0.000000
161	0.000000	-62.15000	199	0.000000	-17.88000
162	0.000000	-57.25000	200	0.000000	0.000000
163	0.000000	-0.4300000	201	0.000000	-0.1800000
164	0.000000	-52.69000	202	0.000000	0.000000
165	0.000000	0.000000	203	0.000000	0.000000

204	0.000000	0.000000	242	0.000000	-5.960000
205	0.000000	0.000000	243	1.000000	0.000000
206	0.000000	0.000000	244	0.000000	-17.08000
207	0.000000	0.000000	245	0.000000	0.000000
208	0.000000	0.000000	246	0.000000	-28.94500
209	0.000000	0.000000	247	0.000000	-9.470000
210	0.000000	0.000000	248	0.000000	0.000000
211	0.000000	0.000000	249	0.000000	0.000000
212	0.000000	0.000000	250	0.000000	0.000000
213	0.000000	-2.390000	251	0.000000	0.000000
214	0.000000	0.000000	252	1.000000	0.000000
215	0.000000	-11.42000	253	0.000000	-46.52000
216	0.000000	0.000000	254	0.000000	0.000000
217	0.000000	0.000000	255	0.000000	-2.755000
218	0.000000	0.000000	256	0.000000	-19.69500
219	0.000000	0.000000	257	0.000000	0.000000
220	0.000000	0.000000	258	0.000000	-10.06000
221	0.000000	0.000000	259	0.000000	0.000000
222	0.000000	-14.85000	260	0.000000	0.000000
223	0.000000	0.000000	261	0.000000	0.000000
224	0.000000	-14.05000	262	1.000000	0.000000
225	1.000000	0.000000	263	1.000000	0.000000
226	0.000000	0.000000	264	0.000000	-1.250000
227	0.000000	0.000000	265	0.000000	0.000000
228	0.000000	0.000000	266	0.000000	0.000000
229	0.000000	0.000000	267	0.000000	0.000000
230	0.000000	0.000000	268	0.000000	-18.00000
231	0.000000	0.000000	269	0.000000	-1.020000
232	0.000000	0.000000	270	0.000000	0.000000
233	0.000000	0.000000	271	0.000000	0.000000
234	0.000000	0.000000	272	0.000000	0.000000
235	0.000000	0.000000	273	0.000000	0.000000
236	0.000000	-1.820000	274	1.000000	0.000000
237	0.000000	-8.200000	275	0.000000	0.000000
238	0.000000	0.000000	276	0.000000	0.000000
239	0.000000	0.000000	277	1.000000	0.000000
240	0.000000	0.000000	278	1.000000	0.000000
241	0.000000	0.000000	279	0.000000	0.000000

280	0.000000	0.000000	318	0.000000	0.000000
281	0.000000	0.000000	319	0.000000	0.000000
282	0.000000	0.000000	320	0.000000	-108.2000
283	1.000000	0.000000	321	0.000000	-3.680000
284	0.000000	-23.24000	322	0.000000	0.000000
285	0.000000	0.000000	323	0.000000	0.000000
286	0.000000	-21.39500	324	0.000000	-59.69000
287	0.000000	0.000000	325	0.000000	-139.0300
288	1.000000	0.000000	326	0.000000	0.000000
289	0.000000	0.000000	327	0.000000	0.000000
290	0.000000	0.000000	328	0.000000	-53.55000
291	0.000000	0.000000	329	0.000000	-52.70000
292	0.000000	-48.28500	330	1.000000	0.000000
293	0.000000	-54.38000	331	0.000000	-116.5800
294	0.000000	-72.53000	332	0.000000	0.000000
295	1.000000	0.000000	333	0.000000	0.000000
296	0.000000	-37.70500	334	1.000000	0.000000
297	1.000000	0.000000	335	1.000000	0.000000
298	0.000000	-48.04000	336	0.000000	0.000000
299	1.000000	0.000000	337	0.000000	0.000000
300	0.000000	-79.85000	338	0.000000	-82.26000
301	0.000000	0.000000	339	0.000000	-72.25000
302	0.000000	0.000000	340	1.000000	0.000000
303	1.000000	0.000000	341	0.000000	-60.32000
304	0.000000	-60.22000	342	0.000000	-112.4000
305	0.000000	-57.78000	343	0.000000	-58.33000
306	1.000000	0.000000	344	0.000000	-121.2400
307	0.000000	0.000000	345	0.000000	0.000000
308	0.000000	0.000000	346	0.000000	0.000000
309	0.000000	0.000000	347	0.000000	0.000000
310	0.000000	0.000000	348	0.000000	-97.48000
311	0.000000	-64.20000	349	0.000000	0.000000
312	0.000000	-83.16000	350	1.000000	0.000000
313	0.000000	0.000000	351	0.000000	0.000000
314	0.000000	0.000000	352	0.000000	0.000000
315	1.000000	0.000000	353	0.000000	-55.22000
316	0.000000	-103.7900	354	1.000000	0.000000
317	0.000000	0.000000	355	1.000000	0.000000

356	0.000000	0.000000	394	1.000000	0.000000
357	0.000000	-61.81000	395	0.000000	0.000000
358	0.000000	0.000000	396	0.000000	0.000000
359	0.000000	0.000000	397	1.000000	0.000000
360	0.000000	-17.68000	398	1.000000	0.000000
361	0.000000	-5.530000	399	0.000000	0.000000
362	0.000000	0.000000	400	0.000000	-17.20000
363	0.000000	0.000000	401	1.000000	0.000000
364	0.000000	0.000000	402	1.000000	0.000000
365	0.000000	-34.39000	403	0.000000	-4.900000
366	1.000000	0.000000	404	0.000000	-16.45000
367	0.000000	-13.47000	405	1.000000	0.000000
368	1.000000	0.000000	406	1.000000	0.000000
369	1.000000	0.000000	407	0.000000	0.000000
370	1.000000	0.000000	408	0.000000	-13.27000
371	0.000000	0.000000	409	0.000000	0.000000
372	0.000000	0.000000	410	1.000000	0.000000
373	1.000000	0.000000	411	0.000000	0.000000
374	1.000000	0.000000	412	1.000000	0.000000
375	0.000000	0.000000	413	1.000000	0.000000
376	0.000000	0.000000	414	1.000000	0.000000
377	1.000000	0.000000	415	0.000000	0.000000
378	1.000000	0.000000	416	0.000000	0.000000
379	0.000000	0.000000	417	1.000000	0.000000
380	0.000000	0.000000	418	1.000000	0.000000
381	1.000000	0.000000	419	1.000000	0.000000
382	1.000000	0.000000	420	1.000000	0.000000
383	0.000000	0.000000	421	1.000000	0.000000
384	0.000000	0.000000	422	0.000000	0.000000
385	1.000000	0.000000	423	0.000000	-25.36000
386	1.000000	0.000000	424	0.000000	0.000000
387	0.000000	0.000000	425	1.000000	0.000000
388	0.000000	0.000000	426	0.000000	0.000000
389	1.000000	0.000000	427	1.000000	0.000000
390	1.000000	0.000000	428	1.000000	0.000000
391	0.000000	0.000000	429	2.000000	0.000000
392	0.000000	0.000000	430	0.000000	0.000000
393	1.000000	0.000000	431	0.000000	0.000000

432	0.000000	-5.110000	470	0.000000	0.000000
433	1.000000	0.000000	471	1.000000	0.000000
434	1.000000	0.000000	472	0.000000	0.000000
435	1.000000	0.000000	473	1.000000	0.000000
436	1.000000	0.000000	474	0.000000	0.000000
437	1.000000	0.000000	475	0.000000	-16.97000
438	2.000000	0.000000	476	1.000000	0.000000
439	0.000000	-13.29000	477	1.000000	0.000000
440	0.000000	0.000000	478	0.000000	0.000000
441	0.000000	-21.49500	479	0.000000	-52.16000
442	1.000000	0.000000	480	0.000000	-62.96000
443	1.000000	0.000000	481	1.000000	0.000000
444	1.000000	0.000000	482	0.000000	-60.74000
445	1.000000	0.000000	483	1.000000	0.000000
446	1.000000	0.000000	484	0.000000	-205.3400
447	0.000000	0.000000	485	0.000000	0.000000
448	0.000000	0.000000	486	0.000000	-217.1100
449	0.000000	0.000000	487	0.000000	-72.27000
450	1.000000	0.000000	488	0.000000	-54.50000
451	1.000000	0.000000	489	1.000000	0.000000
452	1.000000	0.000000	490	0.000000	0.000000
453	1.000000	0.000000	491	0.000000	-40.24000
454	1.000000	0.000000	492	0.000000	0.000000
455	0.000000	0.000000	493	1.000000	0.000000
456	1.000000	0.000000	494	0.000000	-205.3700
457	0.000000	0.000000	495	0.000000	-24.24000
458	1.000000	0.000000	496	0.000000	-54.38000
459	0.000000	0.000000	497	0.000000	0.000000
460	0.000000	0.000000	498	0.000000	-51.10000
461	1.000000	0.000000	499	0.000000	0.000000
462	1.000000	0.000000	500	0.000000	-69.61000
463	0.000000	0.000000	501	1.000000	0.000000
464	0.000000	0.000000	502	0.000000	-56.63000
465	0.000000	-41.76000	503	1.000000	0.000000
466	1.000000	0.000000	504	0.000000	0.000000
467	1.000000	0.000000	505	1.000000	0.000000
468	1.000000	0.000000	506	0.000000	-55.17000
469	0.000000	0.000000	507	0.000000	-57.88000

508	0.000000	-122.8600	546	1.000000	0.000000
509	0.000000	0.000000	547	0.000000	0.000000
510	0.000000	0.000000	548	1.000000	0.000000
511	0.000000	-52.72000	549	1.000000	0.000000
512	0.000000	-138.3100	550	2.000000	0.000000
513	0.000000	0.000000	551	1.000000	0.000000
514	0.000000	-53.86000	552	0.000000	-26.82000
515	0.000000	-146.6700	553	2.000000	0.000000
516	1.000000	0.000000	554	1.000000	0.000000
517	0.000000	-55.94000	555	1.000000	0.000000
518	0.000000	-44.49000	556	1.000000	0.000000
519	0.000000	-58.13000	557	0.000000	-11.17000
520	1.000000	0.000000	558	1.000000	0.000000
521	1.000000	0.000000	559	1.000000	0.000000
522	0.000000	-67.37000	560	0.000000	0.000000
523	0.000000	-90.62000	561	0.000000	0.000000
524	0.000000	0.000000	562	0.000000	-1.920000
525	0.000000	0.000000	563	1.000000	0.000000
526	1.000000	0.000000	564	1.000000	0.000000
527	0.000000	-106.1600	565	1.000000	0.000000
528	0.000000	0.000000	566	1.000000	0.000000
529	0.000000	-57.75000	567	1.000000	0.000000
530	0.000000	-72.39000	568	1.000000	0.000000
531	0.000000	-129.8000	569	1.000000	0.000000
532	0.000000	-53.48000	570	1.000000	0.000000
533	0.000000	0.000000	571	1.000000	0.000000
534	0.000000	-55.17000	572	1.000000	0.000000
535	0.000000	0.000000	573	1.000000	0.000000
536	0.000000	0.000000	574	1.000000	0.000000
537	0.000000	0.000000	575	1.000000	0.000000
538	0.000000	-61.04000	576	1.000000	0.000000
539	0.000000	-166.4200	577	1.000000	0.000000
540	1.000000	0.000000	578	1.000000	0.000000
541	1.000000	0.000000	579	1.000000	0.000000
542	0.000000	0.000000	580	1.000000	0.000000
543	1.000000	0.000000	581	1.000000	0.000000
544	1.000000	0.000000	582	1.000000	0.000000
545	1.000000	0.000000	583	1.000000	0.000000

584	1.000000	0.000000	622	1.000000	0.000000
585	1.000000	0.000000	623	1.000000	0.000000
586	1.000000	0.000000	624	1.000000	0.000000
587	1.000000	0.000000	625	1.000000	0.000000
588	1.000000	0.000000	626	1.000000	0.000000
589	1.000000	0.000000	627	1.000000	0.000000
590	1.000000	0.000000	628	1.000000	0.000000
591	1.000000	0.000000	629	0.000000	0.000000
592	1.000000	0.000000	630	1.000000	0.000000
593	0.000000	0.000000	631	1.000000	0.000000
594	0.000000	-16.76000	632	1.000000	0.000000
595	1.000000	0.000000	633	1.000000	0.000000
596	1.000000	0.000000	634	1.000000	0.000000
597	0.000000	0.000000	635	1.000000	0.000000
598	1.000000	0.000000	636	1.000000	0.000000
599	1.000000	0.000000	637	0.000000	0.000000
600	1.000000	0.000000	638	1.000000	0.000000
601	1.000000	0.000000	639	1.000000	0.000000
602	1.000000	0.000000	640	1.000000	0.000000
603	1.000000	0.000000	641	0.000000	0.000000
604	1.000000	0.000000	642	1.000000	0.000000
605	1.000000	0.000000	643	0.000000	0.000000
606	1.000000	0.000000	644	0.000000	0.000000
607	1.000000	0.000000	645	0.000000	-30.65500
608	1.000000	0.000000	646	1.000000	0.000000
609	1.000000	0.000000	647	0.000000	-74.97000
610	1.000000	0.000000	648	0.000000	0.000000
611	1.000000	0.000000	649	0.000000	0.000000
612	1.000000	0.000000	650	0.000000	0.000000
613	1.000000	0.000000	651	1.000000	0.000000
614	1.000000	0.000000	652	0.000000	0.000000
615	1.000000	0.000000	653	1.000000	0.000000
616	1.000000	0.000000	654	0.000000	0.000000
617	1.000000	0.000000	655	0.000000	-55.94000
618	1.000000	0.000000	656	1.000000	0.000000
619	1.000000	0.000000	657	0.000000	-60.22000
620	1.000000	0.000000	658	0.000000	0.000000
621	1.000000	0.000000	659	1.000000	0.000000

660	1.000000	0.000000	698	0.000000	-19.89000
661	0.000000	-98.81000	699	0.000000	0.000000
662	1.000000	0.000000	700	0.000000	0.000000
663	0.000000	0.000000	701	0.000000	0.000000
664	0.000000	-1.060000	702	1.000000	0.000000
665	1.000000	0.000000	703	0.000000	-20.37000
666	1.000000	0.000000	704	0.000000	0.000000
667	0.000000	0.000000	705	0.000000	0.000000
668	1.000000	0.000000	706	0.000000	-15.37000
669	0.000000	0.000000	707	0.000000	-5.310000
670	1.000000	0.000000	708	0.000000	0.000000
671	1.000000	0.000000	709	1.000000	0.000000
672	1.000000	0.000000	710	0.000000	0.000000
673	1.000000	0.000000	711	0.000000	0.000000
674	0.000000	0.000000	712	1.000000	0.000000
675	1.000000	0.000000	713	0.000000	0.000000
676	1.000000	0.000000	714	0.000000	-6.360000
677	1.000000	0.000000	715	0.000000	0.000000
678	1.000000	0.000000	716	0.000000	0.000000
679	1.000000	0.000000	717	0.000000	-28.14000
680	1.000000	0.000000	718	1.000000	0.000000
681	0.000000	-9.440000	719	1.000000	0.000000
682	1.000000	0.000000	720	0.000000	0.000000
683	0.000000	0.000000	721	0.000000	0.000000
684	1.000000	0.000000	722	0.000000	0.000000
685	1.000000	0.000000	723	0.000000	0.000000
686	0.000000	0.000000	724	0.000000	0.000000
687	0.000000	0.000000	725	0.000000	-22.21000
688	0.000000	0.000000	726	0.000000	-2.300000
689	0.000000	0.000000	727	0.000000	-9.720000
690	0.000000	-2.130000	728	0.000000	0.000000
691	0.000000	0.000000	729	0.000000	0.000000
692	0.000000	0.000000	730	0.000000	0.000000
693	0.000000	0.000000	731	1.000000	0.000000
694	0.000000	-1.470000	732	0.000000	0.000000
695	0.000000	-1.820000	733	0.000000	0.000000
696	0.000000	0.000000	734	1.000000	0.000000
697	0.000000	0.000000	735	1.000000	0.000000



Mapa 2

Global optimal solution found.

Objective value: 11237.64

Infeasibilities: 0.000000

Total solver iterations: 143

Model Class: LP

Total variables: 227

Nonlinear variables: 0

Integer variables: 0

Total constraints: 587

Nonlinear constraints: 0

Total nonzeros: 1574

Nonlinear nonzeros: 0

Variable	Value	Reduced Cost			
			X010012	1.000000	0.000000
X001002	1.000000	0.000000	X011012	0.000000	8.490000
X001004	1.000000	0.000000	X011013	1.000000	0.000000
X002003	1.000000	0.000000	X011016	1.000000	0.000000
X002006	0.000000	11.44000	X012023	1.000000	0.000000
X003005	1.000000	0.000000	X013018	1.000000	0.000000
X003007	0.000000	86.23000	X013026	0.000000	160.2000
X004015	0.000000	14.17000	X014016	0.000000	91.45000
X004007	1.000000	0.000000	X014017	1.000000	0.000000
X005008	1.000000	0.000000	X014018	1.000000	0.000000
X005009	0.000000	43.44000	X015016	1.000000	0.000000
X006008	1.000000	0.000000	X015017	1.000000	0.000000
X006019	1.000000	0.000000	X018030	0.000000	0.000000
X007009	1.000000	0.000000	X019021	1.000000	0.000000
X008010	0.000000	3.980000	X020022	1.000000	0.000000
X008020	1.000000	0.000000	X021033	1.000000	0.000000
X009010	1.000000	0.000000	X022024	1.000000	0.000000

X022154	0.000000	0.000000	X046047	0.000000	11.82000
X023024	1.000000	0.000000	X046054	1.000000	0.000000
X024025	0.000000	0.60000E-01	X047055	1.000000	0.000000
X025026	1.000000	0.000000	X048049	1.000000	0.000000
X025154	1.000000	0.000000	X048051	1.000000	0.000000
X026035	1.000000	0.000000	X049050	1.000000	0.000000
X027030	1.000000	0.000000	X049062	0.000000	36.32000
X027028	1.000000	0.000000	X050078	1.000000	0.000000
X027036	1.000000	0.000000	X050083	0.000000	127.0900
X028029	1.000000	0.000000	X050064	0.000000	66.97000
X028051	0.000000	82.40000	X051052	1.000000	0.000000
X029032	1.000000	0.000000	X052062	1.000000	0.000000
X029048	0.000000	217.7700	X053054	0.000000	0.000000
X030031	1.000000	0.000000	X053059	1.000000	0.000000
X031032	1.000000	0.000000	X054055	1.000000	0.000000
X033034	0.000000	23.88000	X055056	0.000000	33.88000
X033038	1.000000	0.000000	X056057	1.000000	0.000000
X034035	0.000000	100.4300	X056059	1.000000	0.000000
X034038	1.000000	0.000000	X057069	1.000000	0.000000
X034154	1.000000	0.000000	X058070	1.000000	0.000000
X035044	1.000000	0.000000	X060061	1.000000	0.000000
X036052	0.000000	7.560000	X061063	1.000000	0.000000
X036044	1.000000	0.000000	X061068	0.000000	127.9600
X037038	0.000000	6.760000	X062063	1.000000	0.000000
X037044	1.000000	0.000000	X063064	1.000000	0.000000
X037045	1.000000	0.000000	X064065	1.000000	0.000000
X038039	0.000000	0.000000	X065066	1.000000	0.000000
X039040	1.000000	0.000000	X066067	1.000000	0.000000
X039046	1.000000	0.000000	X066080	0.000000	32.96000
X040041	1.000000	0.000000	X067068	1.000000	0.000000
X041042	1.000000	0.000000	X067087	0.000000	199.3200
X041047	1.000000	0.000000	X068069	1.000000	0.000000
X042043	1.000000	0.000000	X069070	1.000000	0.000000
X042057	0.000000	56.66000	X069073	1.000000	0.000000
X043058	1.000000	0.000000	X070071	0.000000	105.2800
X044060	1.000000	0.000000	X071072	1.000000	0.000000
X045046	0.000000	19.18000	X071076	1.000000	0.000000
X045053	1.000000	0.000000	X072093	1.000000	0.000000

X073074	1.000000	0.000000	X096098	1.000000	0.000000
X073094	0.000000	201.5400	X097101	1.000000	0.000000
X074075	1.000000	0.000000	X098102	1.000000	0.000000
X074089	0.000000	156.9400	X099100	1.000000	0.000000
X075077	1.000000	0.000000	X100110	1.000000	0.000000
X075090	0.000000	152.2200	X101111	1.000000	0.000000
X076077	1.000000	0.000000	X101106	0.000000	31.80000
X076091	0.000000	130.9000	X102104	0.000000	59.45500
X077090	0.000000	162.5600	X102106	1.000000	0.000000
X078079	1.000000	0.000000	X103104	1.000000	0.000000
X078084	0.000000	143.0900	X104105	1.000000	0.000000
X079080	1.000000	0.000000	X105106	1.000000	0.000000
X079081	1.000000	0.000000	X107108	1.000000	0.000000
X080086	1.000000	0.000000	X107134	0.000000	219.3500
X081086	0.000000	20.15000	X108115	1.000000	0.000000
X081082	1.000000	0.000000	X108109	0.000000	104.9700
X082099	0.000000	159.1200	X109110	1.000000	0.000000
X082085	1.000000	0.000000	X109117	1.000000	0.000000
X083084	1.000000	0.000000	X110118	1.000000	0.000000
X083107	1.000000	0.000000	X110111	1.000000	0.000000
X084085	1.000000	0.000000	X111112	0.000000	22.91000
X085100	0.000000	80.45000	X112113	1.000000	0.000000
X086088	1.000000	0.000000	X112120	1.000000	0.000000
X087088	1.000000	0.000000	X113114	1.000000	0.000000
X087094	1.000000	0.000000	X113121	0.000000	29.93000
X088097	0.000000	0.000000	X114122	1.000000	0.000000
X088099	1.000000	0.000000	X115128	1.000000	0.000000
X089090	1.000000	0.000000	X115116	0.000000	75.17000
X089095	1.000000	0.000000	X116117	1.000000	0.000000
X090091	1.000000	0.000000	X116129	1.000000	0.000000
X091092	1.000000	0.000000	X117140	0.000000	138.5500
X092093	1.000000	0.000000	X118119	1.000000	0.000000
X092096	0.000000	152.3500	X119127	1.000000	0.000000
X092103	0.5000000	0.000000	X119120	0.000000	96.51000
X093114	0.000000	80.31000	X120121	1.000000	0.000000
X094095	0.000000	16.71000	X120126	0.000000	30.92000
X094097	1.000000	0.000000	X120124	0.000000	0.000000
X095096	1.000000	0.000000	X121123	1.000000	0.000000

X122123	0.000000	0.000000	X149150	1.000000	0.000000
X122153	1.000000	0.000000	X150151	1.000000	0.000000
X123124	1.000000	0.000000	X151152	0.000000	38.64000
X124125	1.000000	0.000000	X152153	1.000000	0.000000
X124126	0.000000	14.43000			
X125133	1.000000	0.000000	Row	Slack or Surplus	Dual Price
X125144	1.000000	0.000000	1	11237.64	-1.000000
X126133	1.000000	0.000000	2	0.000000	0.000000
X126127	1.000000	0.000000	3	0.000000	0.000000
X127142	0.000000	57.25000	4	0.000000	0.000000
X128129	0.000000	105.8100	5	0.000000	-52.88000
X128131	1.000000	0.000000	6	0.000000	0.000000
X129132	1.000000	0.000000	7	0.000000	-43.87000
X131132	0.000000	93.06000	8	1.000000	0.000000
X131138	1.000000	0.000000	9	0.000000	-9.520000
X132135	1.000000	0.000000	10	0.000000	-46.03000
X133143	0.000000	10.35000	11	0.000000	-48.80000
X134136	1.000000	0.000000	12	0.000000	0.000000
X134138	1.000000	0.000000	13	0.000000	-12.54000
X135138	0.000000	108.2500	14	0.000000	-3.230000
X135139	1.000000	0.000000	15	0.000000	-49.66000
X136137	1.000000	0.000000	16	0.000000	-8.060000
X137139	0.000000	94.82000	17	0.000000	-56.51000
X137146	1.000000	0.000000	18	0.000000	0.000000
X139140	1.000000	0.000000	19	0.000000	-45.65000
X140141	1.000000	0.000000	20	0.000000	-32.81000
X141145	1.000000	0.000000	21	0.000000	-21.74000
X141142	1.000000	0.000000	22	1.000000	0.000000
X142143	1.000000	0.000000	23	0.000000	-53.81000
X142150	0.000000	0.000000	24	0.000000	0.000000
X143144	0.000000	5.000000	25	0.000000	0.000000
X143151	1.000000	0.000000	26	0.000000	0.000000
X144152	1.000000	0.000000	27	0.000000	-13.90000
X145146	0.000000	171.3000	28	0.000000	-38.11000
X145149	1.000000	0.000000	29	0.000000	-66.83000
X146148	1.000000	0.000000	30	0.000000	-53.29000
X147148	1.000000	0.000000	31	0.000000	-45.91000
X148149	0.000000	242.9300	32	0.000000	0.000000

33	1.000000	0.000000	71	0.000000	-46.73000
34	0.000000	-58.61000	72	0.000000	-54.55000
35	2.000000	0.000000	73	0.000000	-61.16000
36	0.000000	-8.400000	74	1.000000	0.000000
37	0.000000	-44.09000	75	0.000000	-35.44000
38	0.000000	-54.20000	76	0.000000	-9.020000
39	0.000000	0.000000	77	0.000000	-47.26000
40	0.000000	-66.14000	78	1.000000	0.000000
41	0.000000	-42.16000	79	0.000000	0.000000
42	0.000000	-69.71000	80	0.000000	0.000000
43	0.000000	0.000000	81	0.000000	-21.08000
44	0.000000	0.000000	82	0.000000	0.000000
45	0.000000	0.000000	83	0.000000	-52.25000
46	0.000000	0.000000	84	0.000000	-56.18000
47	0.000000	0.000000	85	0.000000	0.000000
48	0.000000	-49.13000	86	0.000000	-4.640000
49	0.000000	0.000000	87	0.000000	-51.62000
50	0.000000	-42.13000	88	0.000000	-50.58500
51	1.000000	0.000000	89	0.000000	-3.965000
52	0.000000	-39.72000	90	0.000000	0.000000
53	0.000000	0.000000	91	0.000000	-22.83000
54	0.000000	0.000000	92	0.000000	-37.97000
55	0.000000	-52.25000	93	0.000000	-63.78000
56	2.000000	0.000000	94	2.000000	0.000000
57	0.000000	-49.95000	95	0.000000	-58.84000
58	0.000000	0.000000	96	0.000000	-49.68000
59	0.000000	-43.74000	97	0.000000	0.000000
60	0.000000	-15.50000	98	0.000000	-58.42000
61	0.000000	-36.75000	99	0.000000	0.000000
62	0.000000	-28.14000	100	0.000000	-51.88000
63	0.000000	-28.72000	101	0.000000	0.000000
64	0.000000	-14.36000	102	0.000000	0.000000
65	1.000000	0.000000	103	0.000000	-18.09000
66	0.000000	0.000000	104	0.000000	0.000000
67	0.000000	-54.84000	105	0.000000	0.000000
68	0.000000	-1.440000	106	0.000000	-36.95000
69	0.000000	-56.52000	107	0.000000	-21.66000
70	0.000000	0.000000	108	1.000000	0.000000

109	0.000000	-9.020000	147	1.000000	0.000000
110	0.000000	-47.26000	148	0.000000	0.000000
111	0.000000	-51.03000	149	0.000000	0.000000
112	0.000000	-0.8400000	150	0.000000	0.000000
113	0.000000	0.000000	151	0.000000	-51.47000
114	0.000000	-51.62000	152	1.000000	0.000000
115	0.000000	-88.83000	153	0.000000	-46.38000
116	0.000000	-1.830000	154	0.000000	-63.14000
117	0.000000	0.000000	155	0.000000	-64.46000
118	0.000000	-11.33000	156	1.000000	0.000000
119	0.000000	-52.72000	157	0.000000	-68.13000
120	0.000000	-53.80000	158	1.000000	0.000000
121	0.000000	-3.490000	159	0.000000	0.000000
122	1.000000	0.000000	160	0.000000	0.000000
123	0.000000	-52.25000	161	1.000000	0.000000
124	0.000000	-6.910000	162	1.000000	0.000000
125	0.000000	-60.93000	163	1.000000	0.000000
126	0.000000	-28.71000	164	0.000000	-69.01000
127	0.000000	-60.66000	165	0.000000	-164.1900
128	0.000000	-59.89000	166	0.000000	-56.28000
129	0.000000	0.000000	167	0.000000	0.000000
130	0.000000	-26.83000	168	1.000000	0.000000
131	0.000000	-33.93000	169	0.000000	0.000000
132	0.000000	-11.98000	170	0.000000	-48.60000
133	0.000000	0.000000	171	0.000000	0.000000
134	0.000000	-48.98000	172	0.000000	0.000000
135	0.000000	-54.55000	173	0.000000	0.000000
136	1.000000	0.000000	174	0.000000	-45.37000
137	1.000000	0.000000	175	1.000000	0.000000
138	0.000000	0.000000	176	1.000000	0.000000
139	1.000000	0.000000	177	0.000000	-2.190000
140	0.000000	-56.18000	178	2.000000	0.000000
141	0.000000	-7.860000	179	0.000000	0.000000
142	1.000000	0.000000	180	0.000000	0.000000
143	0.000000	0.000000	181	0.000000	-18.84000
144	0.000000	0.000000	182	0.000000	0.000000
145	0.000000	0.000000	183	1.000000	0.000000
146	0.000000	0.000000	184	0.000000	0.000000

185	0.000000	-11.97000	223	0.000000	0.000000
186	0.000000	0.000000	224	1.000000	0.000000
187	0.000000	0.000000	225	0.000000	0.000000
188	0.000000	0.000000	226	0.5000000	0.0000000
189	1.000000	0.000000	227	1.000000	0.000000
190	0.000000	-0.1600000	228	1.000000	0.000000
191	0.000000	0.000000	229	0.000000	0.000000
192	0.000000	-159.7500	230	0.000000	0.000000
193	0.000000	-58.98000	231	0.000000	0.000000
194	0.000000	-162.0800	232	0.000000	-57.29000
195	1.000000	0.000000	233	0.000000	-3.400000
196	0.000000	0.000000	234	0.000000	0.000000
197	1.000000	0.000000	235	1.000000	0.000000
198	0.000000	0.000000	236	0.000000	0.000000
199	0.000000	-33.43000	237	0.000000	0.000000
200	1.000000	0.000000	238	0.000000	0.000000
201	1.000000	0.000000	239	0.000000	-43.29500
202	0.000000	0.000000	240	0.000000	0.000000
203	2.000000	0.000000	241	1.000000	0.000000
204	1.000000	0.000000	242	1.000000	0.000000
205	0.000000	0.000000	243	0.000000	0.000000
206	0.000000	-61.47000	244	2.000000	0.000000
207	1.000000	0.000000	245	1.000000	0.000000
208	1.000000	0.000000	246	0.000000	-9.480000
209	1.000000	0.000000	247	1.000000	0.000000
210	1.000000	0.000000	248	0.000000	0.000000
211	1.000000	0.000000	249	1.000000	0.000000
212	1.000000	0.000000	250	0.000000	0.000000
213	1.000000	0.000000	251	1.000000	0.000000
214	0.000000	-138.0500	252	0.000000	-71.07000
215	0.000000	-10.96000	253	1.000000	0.000000
216	0.000000	0.000000	254	0.000000	0.000000
217	0.000000	0.000000	255	0.000000	-45.18000
218	0.000000	0.000000	256	0.000000	-14.46000
219	1.000000	0.000000	257	0.000000	0.000000
220	0.000000	0.000000	258	1.000000	0.000000
221	0.000000	0.000000	259	1.000000	0.000000
222	1.000000	0.000000	260	1.000000	0.000000

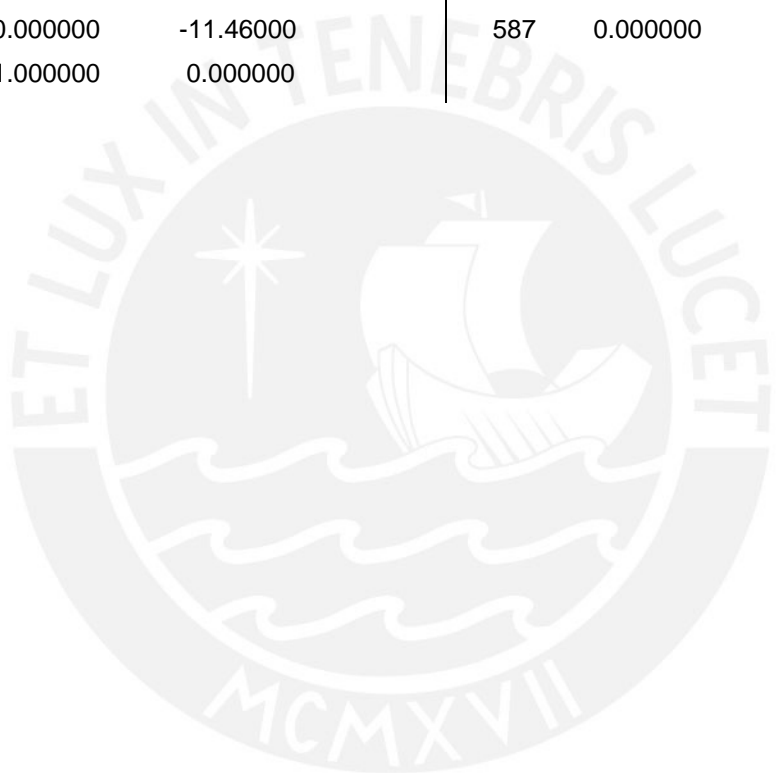
261	1.000000	0.000000	299	0.000000	0.000000
262	0.000000	0.000000	300	1.000000	0.000000
263	0.000000	0.000000	301	1.000000	0.000000
264	0.000000	-3.520000	302	0.000000	0.000000
265	0.000000	-11.32000	303	0.000000	-61.19000
266	1.000000	0.000000	304	0.000000	0.000000
267	0.000000	0.000000	305	0.000000	0.000000
268	0.000000	0.000000	306	0.000000	-56.28000
269	0.000000	-53.17000	307	0.000000	-168.7300
270	0.000000	0.000000	308	0.000000	-56.78000
271	1.000000	0.000000	309	0.000000	-0.4400000
272	0.000000	0.000000	310	0.000000	0.000000
273	0.000000	0.000000	311	1.000000	0.000000
274	1.000000	0.000000	312	1.000000	0.000000
275	1.000000	0.000000	313	1.000000	0.000000
276	1.000000	0.000000	314	0.000000	0.000000
277	0.000000	-26.66000	315	0.000000	0.000000
278	0.000000	-11.29000	316	1.000000	0.000000
279	0.000000	0.000000	317	0.000000	-47.34000
280	1.000000	0.000000	318	0.000000	0.000000
281	0.000000	0.000000	319	0.000000	-19.27000
282	0.000000	0.000000	320	1.000000	0.000000
283	1.000000	0.000000	321	0.000000	-29.82000
284	0.000000	0.000000	322	0.000000	0.000000
285	0.000000	-208.8200	323	1.000000	0.000000
286	0.000000	0.000000	324	0.000000	0.000000
287	0.000000	-226.7000	325	1.000000	0.000000
288	0.000000	-56.57000	326	0.000000	-138.4100
289	0.000000	0.000000	327	1.000000	0.000000
290	0.000000	0.000000	328	0.000000	0.000000
291	0.000000	-15.37000	329	0.000000	0.000000
292	1.000000	0.000000	330	2.000000	0.000000
293	1.000000	0.000000	331	0.000000	-40.73000
294	1.000000	0.000000	332	1.000000	0.000000
295	1.000000	0.000000	333	0.000000	0.000000
296	1.000000	0.000000	334	1.000000	0.000000
297	1.000000	0.000000	335	0.000000	0.000000
298	0.000000	0.000000	336	0.000000	0.000000

337	1.000000	0.000000	375	1.000000	0.000000
338	1.000000	0.000000	376	1.000000	0.000000
339	0.000000	0.000000	377	1.000000	0.000000
340	0.000000	-114.7200	378	0.5000000	0.000000
341	0.000000	-17.58000	379	0.000000	-51.62000
342	1.000000	0.000000	380	0.000000	0.000000
343	1.000000	0.000000	381	0.000000	-16.38000
344	0.000000	0.000000	382	1.000000	0.000000
345	0.000000	-193.9800	383	1.000000	0.000000
346	0.000000	-59.49000	384	0.000000	0.000000
347	0.000000	-67.77000	385	1.000000	0.000000
348	1.000000	0.000000	386	1.000000	0.000000
349	1.000000	0.000000	387	0.000000	0.000000
350	1.000000	0.000000	388	0.000000	-4.510000
351	0.000000	-158.6400	389	0.5000000	0.000000
352	0.000000	-66.51000	390	1.000000	0.000000
353	0.000000	0.000000	391	0.000000	-114.8900
354	1.000000	0.000000	392	1.000000	0.000000
355	2.000000	0.000000	393	0.000000	0.000000
356	0.000000	-16.15000	394	0.000000	0.000000
357	1.000000	0.000000	395	1.000000	0.000000
358	0.000000	-340.6700	396	2.000000	0.000000
359	0.000000	0.000000	397	0.000000	0.000000
360	0.000000	0.000000	398	1.000000	0.000000
361	0.000000	0.000000	399	0.000000	0.000000
362	0.000000	0.000000	400	1.000000	0.000000
363	0.000000	0.000000	401	0.000000	0.000000
364	0.000000	-34.71000	402	1.000000	0.000000
365	1.000000	0.000000	403	0.000000	0.000000
366	1.000000	0.000000	404	0.000000	-63.48000
367	0.000000	0.000000	405	0.000000	0.000000
368	0.000000	0.000000	406	1.000000	0.000000
369	1.000000	0.000000	407	1.000000	0.000000
370	1.000000	0.000000	408	0.000000	0.000000
371	0.000000	0.000000	409	0.000000	0.000000
372	0.000000	-11.25000	410	0.000000	-29.96000
373	1.000000	0.000000	411	1.000000	0.000000
374	1.000000	0.000000	412	1.000000	0.000000

413	0.000000	0.000000	451	0.000000	0.000000
414	0.000000	0.000000	452	0.000000	0.000000
415	0.000000	0.000000	453	1.000000	0.000000
416	0.000000	0.000000	454	0.000000	0.000000
417	0.000000	0.000000	455	0.000000	0.000000
418	0.000000	0.000000	456	0.000000	0.000000
419	1.000000	0.000000	457	0.000000	0.000000
420	0.000000	0.000000	458	0.000000	0.000000
421	0.000000	-49.83000	459	1.000000	0.000000
422	0.000000	0.000000	460	0.000000	0.000000
423	0.000000	0.000000	461	0.000000	-17.72000
424	0.000000	0.000000	462	0.000000	0.000000
425	1.000000	0.000000	463	1.000000	0.000000
426	1.000000	0.000000	464	0.000000	0.000000
427	0.000000	0.000000	465	1.000000	0.000000
428	0.000000	0.000000	466	1.000000	0.000000
429	0.000000	0.000000	467	0.000000	0.000000
430	0.000000	0.000000	468	1.000000	0.000000
431	0.000000	0.000000	469	0.000000	0.000000
432	0.000000	0.000000	470	1.000000	0.000000
433	0.000000	0.000000	471	0.000000	0.000000
434	1.000000	0.000000	472	2.000000	0.000000
435	0.000000	0.000000	473	1.000000	0.000000
436	0.000000	0.000000	474	1.000000	0.000000
437	0.000000	-88.09000	475	1.000000	0.000000
438	1.000000	0.000000	476	0.000000	0.000000
439	0.000000	0.000000	477	0.000000	0.000000
440	0.000000	0.000000	478	1.000000	0.000000
441	1.000000	0.000000	479	0.000000	0.000000
442	0.000000	0.000000	480	0.000000	0.000000
443	0.000000	0.000000	481	1.000000	0.000000
444	0.000000	0.000000	482	1.000000	0.000000
445	2.000000	0.000000	483	0.000000	0.000000
446	0.000000	0.000000	484	0.000000	0.000000
447	0.000000	0.000000	485	0.000000	0.000000
448	0.000000	0.000000	486	0.000000	0.000000
449	1.000000	0.000000	487	0.000000	-21.44000
450	0.000000	0.000000	488	1.000000	0.000000

489	0.000000	0.000000	527	0.000000	0.000000
490	0.000000	0.000000	528	0.000000	0.000000
491	0.000000	0.000000	529	0.000000	0.000000
492	0.000000	-10.10000	530	0.000000	0.000000
493	2.000000	0.000000	531	2.000000	0.000000
494	0.000000	0.000000	532	0.000000	0.000000
495	0.000000	0.000000	533	0.000000	0.000000
496	0.000000	-14.07000	534	0.000000	0.000000
497	0.000000	0.000000	535	0.000000	-27.60000
498	0.000000	0.000000	536	0.000000	-28.94000
499	0.000000	0.000000	537	0.000000	0.000000
500	0.000000	0.000000	538	0.000000	-7.710000
501	0.000000	0.000000	539	0.000000	0.000000
502	1.000000	0.000000	540	0.000000	0.000000
503	0.000000	0.000000	541	0.000000	0.000000
504	1.000000	0.000000	542	1.000000	0.000000
505	1.000000	0.000000	543	1.000000	0.000000
506	0.000000	0.000000	544	0.000000	0.000000
507	0.000000	0.000000	545	1.000000	0.000000
508	0.000000	0.000000	546	0.000000	0.000000
509	1.000000	0.000000	547	0.000000	0.000000
510	0.000000	0.000000	548	1.000000	0.000000
511	2.000000	0.000000	549	1.000000	0.000000
512	0.000000	0.000000	550	1.000000	0.000000
513	0.000000	0.000000	551	1.000000	0.000000
514	0.000000	0.000000	552	0.000000	0.000000
515	1.500000	0.000000	553	0.000000	0.000000
516	0.000000	0.000000	554	1.000000	0.000000
517	1.000000	0.000000	555	1.000000	0.000000
518	1.000000	0.000000	556	0.000000	0.000000
519	0.000000	0.000000	557	1.000000	0.000000
520	0.000000	-6.360000	558	0.000000	-61.14000
521	0.000000	0.000000	559	1.000000	0.000000
522	0.000000	-76.08000	560	0.000000	0.000000
523	0.000000	-43.56000	561	1.000000	0.000000
524	1.000000	0.000000	562	1.000000	0.000000
525	0.5000000	0.000000	563	1.000000	0.000000
526	0.000000	0.000000	564	1.000000	0.000000

565	0.000000	0.000000	577	2.000000	0.000000
566	1.000000	0.000000	578	1.000000	0.000000
567	0.000000	0.000000	579	0.000000	0.000000
568	0.000000	-53.10000	580	1.000000	0.000000
569	1.000000	0.000000	581	0.000000	-2.110000
570	0.000000	0.000000	582	2.000000	0.000000
571	1.000000	0.000000	583	1.000000	0.000000
572	0.000000	0.000000	584	1.000000	0.000000
573	1.000000	0.000000	585	0.000000	-11.68000
574	2.000000	0.000000	586	1.000000	0.000000
575	0.000000	-11.46000	587	0.000000	0.000000
576	1.000000	0.000000			



Mapa 3

Global optimal solution found.

Objective value: 12239.27

Infeasibilities: 0.000000

Total solver iterations: 233

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X017019	1.000000	0.000000
X001175	1.000000	0.000000	X018022	1.000000	0.000000
X002175	1.000000	0.000000	X019020	1.000000	0.000000
X002009	0.000000	189.2419	X019054	0.000000	0.000000
X003005	0.5000000	0.000000	X020021	1.000000	0.000000
X003004	0.5000000	0.000000	X020055	0.000000	64.49910
X004005	0.5000000	0.000000	X021053	1.000000	0.000000
X004007	1.000000	0.000000	X021056	0.000000	0.000000
X005006	1.000000	0.000000	X022023	1.000000	0.000000
X006007	1.000000	0.000000	X022050	0.000000	17.03810
X006010	0.000000	0.000000	X023024	0.5000000	0.000000
X007008	0.000000	0.000000	X023025	0.5000000	0.000000
X008174	1.000000	0.000000	X024025	0.5000000	0.000000
X008009	1.000000	0.000000	X024026	1.000000	0.000000
X009011	1.000000	0.000000	X025028	1.000000	0.000000
X010174	1.000000	0.000000	X026032	0.000000	144.4802
X010015	1.000000	0.000000	X026027	1.000000	0.000000
X011012	0.000000	50.51255	X027029	1.000000	0.000000
X011013	1.000000	0.000000	X027028	0.000000	44.70975
X012174	0.000000	37.62975	X028030	1.000000	0.000000
X012014	1.000000	0.000000	X029030	0.000000	60.86000
X013014	0.000000	50.15140	X029031	1.000000	0.000000
X013016	1.000000	0.000000	X030035	1.000000	0.000000
X014015	0.000000	0.000000	X031032	1.000000	0.000000
X015018	1.000000	0.000000	X031035	0.000000	0.000000
X016017	1.000000	0.000000	X032033	1.000000	0.000000
X016058	0.000000	183.1809	X033034	0.000000	6.543100
X017018	0.000000	0.000000	X033047	1.000000	0.000000
			X034035	1.000000	0.000000

X034048	1.000000	0.000000	X058066	1.000000	0.000000
X034093	1.000000	0.000000	X059060	0.000000	3.883700
X036037	1.000000	0.000000	X060061	1.000000	0.000000
X036046	1.000000	0.000000	X060085	1.000000	0.000000
X037038	0.5000000	0.000000	X061062	1.000000	0.000000
X037040	0.5000000	0.000000	X062092	0.000000	51.40760
X038039	1.000000	0.000000	X062088	0.000000	7.461700
X038040	0.5000000	0.000000	X063083	0.000000	34.31830
X039040	1.000000	0.000000	X063064	1.000000	0.000000
X040041	0.000000	0.000000	X064065	1.000000	0.000000
X040043	0.000000	27.03495	X064082	0.000000	84.10550
X041043	1.000000	0.000000	X065081	0.000000	24.58100
X041042	1.000000	0.000000	X065067	1.000000	0.000000
X042045	1.000000	0.000000	X066067	1.000000	0.000000
X043044	1.000000	0.000000	X067068	0.000000	41.60730
X043046	0.000000	46.62600	X068069	1.000000	0.000000
X044045	1.000000	0.000000	X068080	1.000000	0.000000
X044099	0.000000	86.90400	X069070	0.000000	0.000000
X045103	1.000000	0.000000	X069079	1.000000	0.000000
X046047	1.000000	0.000000	X069072	0.000000	141.4500
X047099	1.000000	0.000000	X070071	1.000000	0.000000
X047049	1.000000	0.000000	X070072	1.000000	0.000000
X048049	1.000000	0.000000	X071073	1.000000	0.000000
X048097	0.000000	27.78110	X071074	0.000000	55.35080
X049098	0.000000	19.09060	X072073	1.000000	0.000000
X050053	1.000000	0.000000	X072078	0.000000	0.000000
X050051	1.000000	0.000000	X072077	0.000000	35.81230
X051052	1.000000	0.000000	X073076	0.000000	91.20090
X052062	1.000000	0.000000	X074075	1.000000	0.000000
X052093	1.000000	0.000000	X074076	1.000000	0.000000
X053060	0.000000	42.79300	X075139	0.000000	0.000000
X054057	1.000000	0.000000	X075147	1.000000	0.000000
X054055	1.000000	0.000000	X076077	1.000000	0.000000
X055056	1.000000	0.000000	X077132	1.000000	0.000000
X056059	1.000000	0.000000	X078079	0.000000	128.8428
X057059	1.000000	0.000000	X078132	1.000000	0.000000
X057058	1.000000	0.000000	X079124	1.000000	0.000000
X057063	1.000000	0.000000	X080081	1.000000	0.000000

X080089	1.000000	0.000000	X110111	0.000000	28.31070
X081082	1.000000	0.000000	X110112	1.000000	0.000000
X082083	1.000000	0.000000	X111113	1.000000	0.000000
X083084	1.000000	0.000000	X111114	0.000000	138.4951
X084085	1.000000	0.000000	X112113	0.000000	0.000000
X084089	0.000000	87.49280	X112120	1.000000	0.000000
X085086	0.000000	0.000000	X113115	0.000000	144.9178
X086087	1.000000	0.000000	X113119	1.000000	0.000000
X086090	1.000000	0.000000	X114115	1.000000	0.000000
X087088	1.000000	0.000000	X106114	1.000000	0.000000
X061087	0.000000	80.30850	X115116	1.000000	0.000000
X088092	1.000000	0.000000	X116117	1.000000	0.000000
X089090	1.000000	0.000000	X116170	0.000000	68.08680
X090091	0.000000	0.000000	X117118	1.000000	0.000000
X090095	0.000000	164.3796	X117169	0.000000	149.5153
X091123	1.000000	0.000000	X118167	0.000000	6.004700
X092095	1.000000	0.000000	X118119	1.000000	0.000000
X093094	0.000000	5.257800	X119120	0.000000	44.73130
X094096	1.000000	0.000000	X120121	1.000000	0.000000
X094095	1.000000	0.000000	X120164	0.000000	0.000000
X096107	1.000000	0.000000	X121122	1.000000	0.000000
X097098	1.000000	0.000000	X121163	0.000000	89.58050
X097107	1.000000	0.000000	X107121	0.000000	115.7745
X098100	1.000000	0.000000	X122157	1.000000	0.000000
X099100	1.000000	0.000000	X096122	0.000000	95.43620
X100101	0.000000	25.08590	X096123	0.000000	88.04600
X101104	1.000000	0.000000	X123127	1.000000	0.000000
X101102	1.000000	0.000000	X091124	1.000000	0.000000
X102103	1.000000	0.000000	X124125	0.000000	0.000000
X102105	0.000000	31.25650	X125126	1.000000	0.000000
X103106	0.000000	20.67330	X125128	1.000000	0.000000
X104105	1.000000	0.000000	X126127	1.000000	0.000000
X104109	0.000000	0.000000	X126129	0.000000	26.18060
X105106	1.000000	0.000000	X127130	0.000000	0.000000
X107108	0.000000	0.000000	X078128	1.000000	0.000000
X108109	1.000000	0.000000	X128129	0.000000	0.000000
X108110	1.000000	0.000000	X129130	1.000000	0.000000
X109111	1.000000	0.000000	X129131	1.000000	0.000000

16	0.000000	-48.25470	54	0.000000	-56.28040
17	0.000000	-11.09900	55	0.000000	0.000000
18	0.000000	-49.56890	56	0.000000	0.000000
19	0.000000	-19.24620	57	0.000000	-50.73050
20	0.000000	0.000000	58	0.000000	-5.757800
21	0.000000	-49.89230	59	0.000000	-0.7574000
22	0.000000	-13.66870	60	0.000000	-34.60650
23	0.000000	-51.70280	61	0.000000	-4.392500
24	0.000000	-47.96430	62	0.000000	-51.88760
25	0.000000	-5.518450	63	0.000000	-69.71630
26	0.000000	0.000000	64	0.000000	0.000000
27	0.000000	-46.51920	65	0.000000	-54.02990
28	0.000000	-45.98760	66	0.000000	-53.21210
29	0.000000	-3.887700	67	0.000000	-31.90000
30	0.000000	0.000000	68	0.000000	0.000000
31	0.000000	-40.67200	69	0.000000	-44.78310
32	0.000000	0.000000	70	0.000000	0.000000
33	0.000000	-81.95220	71	0.000000	-26.04110
34	1.000000	0.000000	72	0.000000	-34.54870
35	0.000000	-47.96390	73	0.000000	-19.43160
36	0.000000	-30.75345	74	0.000000	-23.85950
37	0.000000	-27.79035	75	1.000000	0.000000
38	0.000000	-53.88285	76	0.000000	-40.96260
39	0.000000	-38.01540	77	0.000000	0.000000
40	0.000000	0.000000	78	0.000000	-35.22850
41	0.000000	-59.03870	79	0.000000	-9.458200
42	1.000000	0.000000	80	0.000000	-39.14170
43	0.000000	-73.30980	81	0.000000	-51.72960
44	2.000000	0.000000	82	0.000000	0.000000
45	0.000000	-2.399200	83	0.000000	-49.91640
46	0.000000	-51.36580	84	0.000000	-49.51810
47	0.000000	-19.59150	85	0.000000	0.000000
48	1.000000	0.000000	86	0.000000	-68.58110
49	0.000000	-38.43300	87	0.000000	-28.78750
50	0.000000	-47.31910	88	0.000000	-58.20350
51	0.000000	0.000000	89	0.000000	-32.46920
52	0.000000	-50.62270	90	0.000000	-22.95540
53	2.000000	0.000000	91	0.000000	-35.79540

92	0.000000	-47.72550	130	0.000000	-45.37390
93	0.000000	-3.286600	131	0.000000	-47.67720
94	0.000000	-52.83330	132	0.000000	-53.58020
95	0.000000	-9.981500	133	0.000000	-3.647100
96	0.000000	-47.91030	134	0.000000	-54.75440
97	0.000000	0.000000	135	1.000000	0.000000
98	0.000000	-45.94300	136	0.000000	-39.79530
99	0.000000	-42.25560	137	0.000000	-4.063600
100	0.000000	0.000000	138	0.000000	-48.37340
101	0.000000	-50.25720	139	0.000000	-23.82130
102	0.000000	-22.40120	140	0.000000	-29.58220
103	0.000000	-33.21090	141	0.000000	-20.72280
104	0.000000	-58.43640	142	0.000000	-45.94200
105	0.000000	-42.96730	143	1.000000	0.000000
106	0.000000	-17.39900	144	0.000000	-3.479000
107	0.000000	0.000000	145	0.000000	0.000000
108	0.000000	-33.63020	146	0.000000	-50.90400
109	0.000000	-43.14730	147	0.000000	-54.36700
110	0.000000	-15.69440	148	0.000000	0.000000
111	0.000000	-49.08870	149	0.000000	-10.25770
112	0.000000	0.000000	150	0.000000	-19.02060
113	0.000000	-57.28960	151	0.000000	-50.90420
114	0.000000	-29.15170	152	0.000000	-42.32270
115	0.000000	-15.05710	153	1.000000	0.000000
116	0.000000	-36.83030	154	0.000000	-50.90420
117	0.000000	-25.63510	155	0.000000	0.000000
118	0.000000	-2.377500	156	0.000000	-23.62950
119	0.000000	-25.65840	157	0.000000	0.000000
120	0.000000	-45.41540	158	0.000000	-55.00360
121	0.000000	-9.650500	159	1.000000	0.000000
122	0.000000	-28.23400	160	0.000000	0.000000
123	0.000000	-44.44900	161	1.000000	0.000000
124	0.000000	-25.60110	162	0.000000	-84.84160
125	0.000000	-78.72790	163	1.000000	0.000000
126	0.000000	-13.49160	164	0.000000	-32.93920
127	0.000000	-8.699200	165	0.000000	-12.26230
128	0.000000	-2.576700	166	0.000000	0.000000
129	0.000000	0.000000	167	1.000000	0.000000

168	1.000000	0.000000	206	1.000000	0.000000
169	0.000000	0.000000	207	0.000000	0.000000
170	0.000000	0.000000	208	2.000000	0.000000
171	0.000000	0.000000	209	1.000000	0.000000
172	0.000000	0.000000	210	1.000000	0.000000
173	1.000000	0.000000	211	0.000000	0.000000
174	0.000000	0.000000	212	0.000000	-33.36920
175	0.000000	0.000000	213	1.000000	0.000000
176	0.000000	0.000000	214	1.000000	0.000000
177	1.000000	0.000000	215	0.000000	-48.35470
178	0.000000	0.000000	216	0.000000	0.000000
179	0.000000	0.000000	217	0.000000	0.000000
180	1.000000	0.000000	218	2.000000	0.000000
181	1.000000	0.000000	219	0.000000	0.000000
182	1.000000	0.000000	220	1.000000	0.000000
183	1.000000	0.000000	221	1.000000	0.000000
184	0.5000000	0.000000	222	1.000000	0.000000
185	0.000000	-135.4642	223	0.000000	0.000000
186	0.000000	0.000000	224	0.000000	-48.53980
187	0.000000	0.000000	225	1.000000	0.000000
188	1.000000	0.000000	226	0.000000	0.000000
189	0.000000	-0.2504500	227	0.000000	-132.7676
190	0.000000	0.000000	228	1.000000	0.000000
191	0.000000	0.000000	229	0.000000	0.000000
192	1.000000	0.000000	230	0.000000	0.000000
193	0.000000	-9.011800	231	0.000000	0.000000
194	0.000000	0.000000	232	1.000000	0.000000
195	2.000000	0.000000	233	1.000000	0.000000
196	0.000000	0.000000	234	1.000000	0.000000
197	0.000000	-23.76775	235	0.000000	0.000000
198	0.5000000	0.000000	236	0.000000	0.000000
199	0.5000000	0.000000	237	0.000000	0.000000
200	0.000000	-8.081850	238	0.000000	0.000000
201	0.5000000	0.000000	239	1.000000	0.000000
202	0.000000	0.000000	240	0.000000	-17.89510
203	0.000000	-39.94085	241	1.000000	0.000000
204	1.000000	0.000000	242	0.000000	-46.45290
205	1.000000	0.000000	243	0.000000	0.000000

244	0.000000	0.000000	282	0.000000	0.000000
245	1.000000	0.000000	283	1.000000	0.000000
246	1.000000	0.000000	284	0.000000	0.000000
247	0.000000	0.000000	285	1.000000	0.000000
248	1.000000	0.000000	286	0.000000	0.000000
249	0.000000	0.000000	287	1.000000	0.000000
250	0.000000	-2.997200	288	1.000000	0.000000
251	0.000000	0.000000	289	1.000000	0.000000
252	0.000000	0.000000	290	1.000000	0.000000
253	0.000000	0.000000	291	0.000000	0.000000
254	1.000000	0.000000	292	0.000000	0.000000
255	0.000000	0.000000	293	0.000000	-37.64510
256	0.000000	0.000000	294	0.000000	-42.31310
257	0.000000	0.000000	295	1.000000	0.000000
258	0.000000	0.000000	296	0.000000	0.000000
259	0.000000	0.000000	297	0.000000	0.000000
260	0.000000	0.000000	298	0.000000	-10.90780
261	1.000000	0.000000	299	0.000000	0.000000
262	0.000000	-1.773900	300	1.000000	0.000000
263	1.000000	0.000000	301	1.000000	0.000000
264	1.000000	0.000000	302	1.000000	0.000000
265	1.000000	0.000000	303	1.000000	0.000000
266	0.000000	-0.6125000	304	0.000000	0.000000
267	0.000000	0.000000	305	0.000000	0.000000
268	0.000000	0.000000	306	0.000000	-13.59730
269	0.000000	0.000000	307	0.000000	-81.36200
270	0.000000	0.000000	308	0.000000	-163.0700
271	0.000000	0.000000	309	0.000000	0.000000
272	0.000000	-2.600600	310	1.000000	0.000000
273	0.000000	0.000000	311	0.000000	0.000000
274	0.000000	0.000000	312	0.000000	0.000000
275	0.000000	0.000000	313	0.000000	0.000000
276	0.000000	0.000000	314	1.000000	0.000000
277	1.000000	0.000000	315	0.000000	0.000000
278	1.000000	0.000000	316	0.000000	-121.0220
279	0.000000	0.000000	317	0.000000	0.000000
280	1.000000	0.000000	318	1.000000	0.000000
281	0.000000	0.000000	319	0.000000	0.000000

320	1.000000	0.000000	358	0.000000	0.000000
321	0.000000	0.000000	359	0.000000	-13.19465
322	0.000000	-3.650700	360	0.5000000	0.000000
323	0.000000	-38.66040	361	0.5000000	0.000000
324	0.000000	0.000000	362	0.000000	0.000000
325	0.000000	-76.50720	363	0.000000	0.000000
326	1.000000	0.000000	364	0.000000	0.000000
327	1.000000	0.000000	365	0.000000	-50.74730
328	0.000000	-53.35610	366	0.000000	0.000000
329	0.000000	0.000000	367	0.000000	0.000000
330	0.000000	-29.77470	368	1.000000	0.000000
331	0.000000	0.000000	369	0.000000	0.000000
332	1.000000	0.000000	370	1.000000	0.000000
333	0.000000	-150.0430	371	0.000000	-6.261700
334	0.000000	0.000000	372	0.000000	-100.8472
335	1.000000	0.000000	373	0.000000	0.000000
336	1.000000	0.000000	374	0.5000000	0.000000
337	0.000000	-131.9590	375	0.000000	-72.53215
338	0.000000	0.000000	376	0.5000000	0.000000
339	0.5000000	0.000000	377	1.000000	0.000000
340	0.5000000	0.000000	378	0.000000	-164.0520
341	0.5000000	0.000000	379	0.000000	-27.08920
342	0.000000	-4.955400	380	0.000000	0.000000
343	0.000000	-16.85000	381	1.000000	0.000000
344	1.000000	0.000000	382	0.000000	0.000000
345	1.000000	0.000000	383	2.000000	0.000000
346	1.000000	0.000000	384	0.000000	0.000000
347	0.000000	0.000000	385	0.000000	0.000000
348	1.000000	0.000000	386	1.000000	0.000000
349	0.000000	0.000000	387	0.000000	-76.81700
350	1.000000	0.000000	388	1.000000	0.000000
351	0.000000	-7.891300	389	0.000000	0.000000
352	0.000000	0.000000	390	1.000000	0.000000
353	0.000000	-25.08000	391	1.000000	0.000000
354	0.000000	0.000000	392	1.000000	0.000000
355	0.000000	0.000000	393	2.000000	0.000000
356	0.000000	-4.463300	394	1.000000	0.000000
357	0.000000	0.000000	395	0.000000	-98.59460

396	1.000000	0.000000	434	1.000000	0.000000
397	0.000000	0.000000	435	1.000000	0.000000
398	0.000000	-62.79410	436	0.000000	0.000000
399	0.000000	0.000000	437	1.000000	0.000000
400	0.000000	0.000000	438	0.000000	-83.95800
401	0.000000	0.000000	439	0.000000	0.000000
402	0.000000	0.000000	440	0.000000	0.000000
403	0.000000	0.000000	441	1.000000	0.000000
404	1.000000	0.000000	442	1.000000	0.000000
405	1.000000	0.000000	443	0.000000	0.000000
406	1.000000	0.000000	444	1.000000	0.000000
407	0.000000	0.000000	445	1.000000	0.000000
408	0.000000	0.000000	446	0.000000	0.000000
409	0.000000	-10.05000	447	1.000000	0.000000
410	1.000000	0.000000	448	0.000000	-53.71270
411	0.000000	0.000000	449	1.000000	0.000000
412	1.000000	0.000000	450	1.000000	0.000000
413	1.000000	0.000000	451	1.000000	0.000000
414	1.000000	0.000000	452	0.000000	0.000000
415	0.000000	0.000000	453	0.000000	0.000000
416	1.000000	0.000000	454	0.000000	0.000000
417	1.000000	0.000000	455	0.000000	0.000000
418	1.000000	0.000000	456	1.000000	0.000000
419	1.000000	0.000000	457	0.000000	0.000000
420	0.000000	0.000000	458	0.000000	0.000000
421	0.000000	0.000000	459	0.000000	-42.56380
422	1.000000	0.000000	460	0.000000	0.000000
423	0.000000	0.000000	461	1.000000	0.000000
424	1.000000	0.000000	462	0.000000	-61.51580
425	0.000000	0.000000	463	0.000000	0.000000
426	0.000000	0.000000	464	0.000000	0.000000
427	1.000000	0.000000	465	1.000000	0.000000
428	1.000000	0.000000	466	1.000000	0.000000
429	0.000000	-45.19450	467	0.000000	-31.99120
430	1.000000	0.000000	468	0.000000	0.000000
431	1.000000	0.000000	469	0.000000	-50.99280
432	0.000000	-3.428300	470	0.000000	0.000000
433	1.000000	0.000000	471	1.000000	0.000000

472	0.000000	0.000000	510	0.000000	0.000000
473	0.000000	0.000000	511	1.000000	0.000000
474	0.000000	-4.190600	512	0.000000	0.000000
475	0.000000	0.000000	513	0.500000	0.000000
476	0.000000	0.000000	514	0.500000	0.000000
477	0.000000	0.000000	515	0.500000	0.000000
478	1.000000	0.000000	516	0.000000	-7.048600
479	1.000000	0.000000	517	0.000000	0.000000
480	0.000000	-29.15240	518	0.000000	0.000000
481	1.000000	0.000000	519	0.000000	0.000000
482	0.000000	0.000000	520	0.000000	-64.52240
483	0.000000	-30.30590	521	1.000000	0.000000
484	1.000000	0.000000	522	0.000000	0.000000
485	1.000000	0.000000	523	1.000000	0.000000
486	0.000000	0.000000	524	0.000000	0.000000
487	0.000000	-30.38210	525	1.000000	0.000000
488	1.000000	0.000000	526	0.000000	0.000000
489	1.000000	0.000000	527	1.000000	0.000000
490	0.000000	-51.07600	528	1.000000	0.000000
491	1.000000	0.000000	529	0.000000	0.000000
492	1.000000	0.000000	530	0.000000	-33.00910
493	0.000000	0.000000	531	0.000000	0.000000
494	0.000000	0.000000	532	0.000000	0.000000
495	0.000000	0.000000	533	0.500000	0.000000
496	1.000000	0.000000	534	0.500000	0.000000
497	0.000000	-55.04380	535	0.500000	0.000000
498	0.000000	-127.9320	536	1.000000	0.000000
499	1.000000	0.000000	537	0.000000	0.000000
500	1.000000	0.000000	538	1.000000	0.000000
501	1.000000	0.000000	539	1.000000	0.000000
502	0.000000	0.000000	540	1.000000	0.000000
503	1.000000	0.000000	541	0.000000	0.000000
504	1.000000	0.000000	542	0.000000	-13.31900
505	1.000000	0.000000	543	1.000000	0.000000
506	1.000000	0.000000	544	1.000000	0.000000
507	1.000000	0.000000	545	1.000000	0.000000
508	0.000000	0.000000	546	0.500000	0.000000
509	0.000000	-55.70640	547	0.000000	0.000000

548	0.000000	0.000000	586	0.000000	0.000000
549	0.000000	-4.159750	587	0.000000	0.000000
550	0.000000	0.000000	588	0.000000	0.000000
551	0.000000	0.000000	589	0.000000	-6.043700
552	1.000000	0.000000	590	0.000000	0.000000
553	1.000000	0.000000	591	0.000000	-0.1320000E-01
554	2.000000	0.000000	592	0.000000	0.000000
555	0.000000	-38.34420	593	0.000000	0.000000
556	0.000000	0.000000	594	1.000000	0.000000
557	0.000000	0.000000	595	1.000000	0.000000
558	1.000000	0.000000	596	0.000000	0.000000
559	0.000000	0.000000	597	0.000000	0.000000
560	0.000000	0.000000	598	0.000000	0.000000
561	0.000000	-1.488500	599	0.000000	0.000000
562	0.000000	0.000000	600	0.000000	0.000000
563	2.000000	0.000000	601	1.000000	0.000000
564	0.000000	0.000000	602	0.000000	0.000000
565	0.000000	0.000000	603	0.000000	-40.69000
566	0.000000	-11.58870	604	0.000000	0.000000
567	0.000000	0.000000	605	0.000000	0.000000
568	1.000000	0.000000	606	0.000000	0.000000
569	1.000000	0.000000	607	0.000000	0.000000
570	0.000000	0.000000	608	0.000000	0.000000
571	1.000000	0.000000	609	0.000000	0.000000
572	0.000000	0.000000	610	0.000000	0.000000
573	0.000000	-11.65680	611	0.000000	-14.00450
574	0.000000	0.000000	612	1.000000	0.000000
575	0.000000	-62.49110	613	0.000000	0.000000
576	0.000000	0.000000	614	0.000000	0.000000
577	0.000000	0.000000	615	1.000000	0.000000
578	0.000000	0.000000	616	0.000000	0.000000
579	0.000000	0.000000	617	1.000000	0.000000
580	1.000000	0.000000	618	1.000000	0.000000
581	0.000000	0.000000	619	0.000000	0.000000
582	0.000000	0.000000	620	0.000000	0.000000
583	0.000000	0.000000	621	0.000000	0.000000
584	1.000000	0.000000	622	0.000000	0.000000
585	1.000000	0.000000	623	1.000000	0.000000

624	0.000000	0.000000	661	0.000000	0.000000
625	0.000000	0.000000	662	0.000000	0.000000
626	1.000000	0.000000	663	1.000000	0.000000
627	0.000000	0.000000	664	0.000000	-24.61170
628	1.000000	0.000000	665	0.000000	-19.01460
629	0.000000	0.000000	666	0.000000	0.000000
630	0.000000	0.000000	667	0.000000	0.000000
631	0.000000	0.000000	668	0.000000	-0.7029000
632	0.000000	0.000000	669	1.000000	0.000000
633	0.000000	-6.968400	670	0.000000	0.000000
634	0.000000	0.000000	671	1.000000	0.000000
635	0.000000	-31.35410	672	0.000000	0.000000
636	1.000000	0.000000	673	1.000000	0.000000
637	1.000000	0.000000	674	1.000000	0.000000
638	1.000000	0.000000	675	1.000000	0.000000
639	0.000000	0.000000	676	1.000000	0.000000
640	1.000000	0.000000	677	2.000000	0.000000
641	1.000000	0.000000	678	2.000000	0.000000
642	0.000000	0.000000	679	0.000000	0.000000
643	0.000000	-71.75970	680	1.000000	0.000000
644	0.000000	0.000000	681	1.000000	0.000000
645	1.000000	0.000000	682	1.000000	0.000000
646	1.000000	0.000000	683	0.000000	0.000000
647	1.000000	0.000000	684	1.000000	0.000000
648	0.000000	0.000000	685	1.000000	0.000000
649	0.000000	0.000000	686	1.000000	0.000000
650	0.000000	0.000000	687	1.000000	0.000000
651	1.000000	0.000000	688	0.000000	-3.713600
652	0.000000	0.000000	689	1.000000	0.000000
653	1.000000	0.000000	690	1.000000	0.000000
654	1.000000	0.000000	691	0.000000	0.000000
655	0.000000	0.000000	692	1.000000	0.000000
656	0.000000	0.000000	693	0.000000	0.000000
657	0.000000	0.000000	694	1.000000	0.000000
658	1.000000	0.000000	695	1.000000	0.000000
659	0.000000	-28.93290	696	0.000000	0.000000
660	0.000000	0.000000	697	0.000000	0.000000



Mapa 4

Global optimal solution found.

Objective value: 12580.19

Infeasibilities: 0.000000

Total solver iterations: 218

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X019025	1.000000	0.000000
X001006	1.000000	0.000000	X019051	0.000000	0.000000
X002003	1.000000	0.000000	X020021	0.000000	0.000000
X003004	1.000000	0.000000	X020163	1.000000	0.000000
X003006	0.000000	6.247800	X021162	1.000000	0.000000
X004005	0.5000000	0.000000	X021032	1.000000	0.000000
X004011	0.5000000	0.000000	X022023	1.000000	0.000000
X005009	1.000000	0.000000	X023026	0.5000000	0.000000
X005011	0.5000000	0.000000	X023027	0.5000000	0.000000
X006007	1.000000	0.000000	X024025	1.000000	0.000000
X007008	0.000000	1.037500	X024026	1.000000	0.000000
X007041	1.000000	0.000000	X025038	0.000000	69.70030
X008016	1.000000	0.000000	X026027	0.5000000	0.000000
X008040	1.000000	0.000000	X027030	1.000000	0.000000
X009010	1.000000	0.000000	X028029	1.000000	0.000000
X009016	0.000000	18.64840	X028031	0.000000	0.000000
X010015	1.000000	0.000000	X029030	1.000000	0.000000
X010017	0.000000	20.44520	X030038	1.000000	0.000000
X011012	1.000000	0.000000	X031033	1.000000	0.000000
X012013	1.000000	0.000000	X031036	1.000000	0.000000
X012014	1.000000	0.000000	X032033	1.000000	0.000000
X013015	1.000000	0.000000	X032034	0.000000	0.000000
X013019	0.000000	115.5521	X034035	1.000000	0.000000
X014020	1.000000	0.000000	X034074	0.000000	212.5171
X015018	0.000000	105.7971	X034159	1.000000	0.000000
X016017	1.000000	0.000000	X035079	0.000000	0.000000
X017018	1.000000	0.000000	X035090	1.000000	0.000000
X018019	1.000000	0.000000	X036037	1.000000	0.000000
			X033037	0.000000	104.0532

X037039	1.000000	0.000000	X062063	1.000000	0.000000
X038039	0.000000	52.69410	X062076	0.000000	87.70960
X038057	1.000000	0.000000	X062064	1.000000	0.000000
X039160	1.000000	0.000000	X063066	1.000000	0.000000
X040042	1.000000	0.000000	X064065	1.000000	0.000000
X041045	1.000000	0.000000	X064077	0.000000	183.4444
X042044	1.000000	0.000000	X065066	1.000000	0.000000
X043044	1.000000	0.000000	X065067	0.000000	81.56040
X043051	1.000000	0.000000	X067078	1.000000	0.000000
X044045	1.000000	0.000000	X067101	1.000000	0.000000
X044048	0.000000	30.93160	X068069	0.000000	46.08970
X045046	0.000000	15.32060	X068072	1.000000	0.000000
X046047	1.000000	0.000000	X069070	1.000000	0.000000
X046062	1.000000	0.000000	X070072	0.000000	57.47970
X047048	0.000000	0.000000	X070071	1.000000	0.000000
X047060	0.000000	95.04440	X071073	0.000000	0.000000
X048049	1.000000	0.000000	X071074	1.000000	0.000000
X048165	1.000000	0.000000	X072073	1.000000	0.000000
X049050	1.000000	0.000000	X073075	1.000000	0.000000
X049054	0.000000	37.33830	X074075	1.000000	0.000000
X050051	1.000000	0.000000	X074098	0.000000	0.000000
X050053	0.000000	51.80540	X075099	1.000000	0.000000
X051052	0.000000	42.91180	X075078	0.000000	1.779700
X052053	1.000000	0.000000	X076077	1.000000	0.000000
X052056	1.000000	0.000000	X077078	1.000000	0.000000
X053054	1.000000	0.000000	X079080	1.000000	0.000000
X054055	1.000000	0.000000	X079086	1.000000	0.000000
X055056	0.000000	51.71870	X080081	1.000000	0.000000
X055058	1.000000	0.000000	X081124	0.000000	0.000000
X056057	1.000000	0.000000	X081082	1.000000	0.000000
X057058	0.000000	54.35970	X082123	0.000000	7.467900
X057069	1.000000	0.000000	X082083	1.000000	0.000000
X058068	1.000000	0.000000	X083122	0.000000	39.15510
X059060	1.000000	0.000000	X083084	1.000000	0.000000
X059076	1.000000	0.000000	X084121	0.000000	0.000000
X060061	1.000000	0.000000	X084085	1.000000	0.000000
X061164	1.000000	0.000000	X085120	0.000000	55.38550
X061062	0.000000	15.79450	X085086	1.000000	0.000000

X086119	0.000000	0.000000	X111112	1.000000	0.000000
X086087	0.000000	0.000000	X111113	0.000000	0.000000
X087118	1.000000	0.000000	X112144	0.000000	32.62580
X087088	1.000000	0.000000	X113114	1.000000	0.000000
X088117	0.000000	41.31780	X114130	1.000000	0.000000
X088089	1.000000	0.000000	X115130	1.000000	0.000000
X089116	0.000000	27.67370	X115116	1.000000	0.000000
X089090	1.000000	0.000000	X116117	1.000000	0.000000
X090115	0.000000	43.28370	X117118	1.000000	0.000000
X090091	1.000000	0.000000	X118119	0.000000	44.75200
X091114	0.000000	24.53630	X119120	1.000000	0.000000
X091092	1.000000	0.000000	X119126	1.000000	0.000000
X092113	1.000000	0.000000	X120121	1.000000	0.000000
X092093	0.000000	29.58200	X121122	1.000000	0.000000
X093111	1.000000	0.000000	X122123	1.000000	0.000000
X093094	1.000000	0.000000	X123157	1.000000	0.000000
X094110	0.000000	89.43720	X124157	1.000000	0.000000
X094095	1.000000	0.000000	X124132	1.000000	0.000000
X095109	0.000000	141.5841	X125134	0.000000	0.000000
X095096	1.000000	0.000000	X125126	1.000000	0.000000
X096106	0.000000	35.11650	X126127	1.000000	0.000000
X097098	1.000000	0.000000	X126135	0.000000	150.7301
X097105	1.000000	0.000000	X127136	0.000000	42.86480
X098106	1.000000	0.000000	X127128	1.000000	0.000000
X099100	0.000000	16.12180	X128137	0.000000	96.31170
X099105	1.000000	0.000000	X128129	1.000000	0.000000
X100101	1.000000	0.000000	X129138	1.000000	0.000000
X100166	1.000000	0.000000	X130131	1.000000	0.000000
X101102	0.000000	84.40500	X112131	0.000000	38.23480
X102103	1.000000	0.000000	X131144	1.000000	0.000000
X103104	1.000000	0.000000	X131138	0.000000	0.000000
X104107	1.000000	0.000000	X132149	0.000000	0.000000
X106161	1.000000	0.000000	X132133	1.000000	0.000000
X107142	1.000000	0.000000	X133146	1.000000	0.000000
X108109	1.000000	0.000000	X133134	0.000000	25.91340
X108144	0.000000	66.59890	X134147	1.000000	0.000000
X109110	1.000000	0.000000	X134135	1.000000	0.000000
X110112	1.000000	0.000000	X135136	1.000000	0.000000

X136137	1.000000	0.000000	X024163	0.000000	79.78865
X137138	1.000000	0.000000	X063164	1.000000	0.000000
X138140	0.000000	0.000000	X059165	0.000000	60.58100
X138139	0.000000	0.000000	X047165	1.000000	0.000000
X139140	1.000000	0.000000	X102166	1.000000	0.000000
X139141	1.000000	0.000000	X105166	0.000000	11.78450
X140144	1.000000	0.000000			
X141167	0.000000	28.79900	Row	Slack or Surplus	Dual Price
X141145	1.000000	0.000000	1	12580.19	-1.000000
X142167	1.000000	0.000000	2	0.000000	-48.37340
X143145	1.000000	0.000000	3	0.000000	-26.92840
X144167	1.000000	0.000000	4	0.000000	-27.37840
X144156	1.000000	0.000000	5	0.000000	-59.62960
X144145	0.000000	60.21000	6	0.000000	0.000000
X146158	1.000000	0.000000	7	0.000000	-58.42110
X147150	1.000000	0.000000	8	0.000000	-12.84300
X148149	1.000000	0.000000	9	0.000000	-52.44790
X149153	1.000000	0.000000	10	0.000000	-107.7630
X150151	1.000000	0.000000	11	1.000000	0.000000
X150156	0.000000	9.995600	12	0.000000	-26.62100
X151154	1.000000	0.000000	13	0.000000	-42.03240
X152153	1.000000	0.000000	14	0.000000	0.000000
X152154	1.000000	0.000000	15	0.000000	-35.36290
X153155	0.000000	18.89720	16	0.000000	-16.21350
X154155	1.000000	0.000000	17	0.000000	-43.85820
X155156	1.000000	0.000000	18	0.000000	-1.157700
X125157	1.000000	0.000000	19	0.000000	-52.25400
X148158	1.000000	0.000000	20	0.000000	0.000000
X151158	0.000000	0.000000	21	0.000000	-89.64440
X093159	1.000000	0.000000	22	0.000000	-50.48005
X159160	0.000000	0.000000	23	0.000000	-7.918950
X074160	0.000000	5.532600	24	0.000000	-0.4237500
X096160	1.000000	0.000000	25	0.000000	-36.02280
X107161	0.000000	0.000000	26	0.000000	-1.640000
X108161	1.000000	0.000000	27	1.000000	0.000000
X022162	0.000000	37.73850	28	0.000000	-49.75120
X028162	1.000000	0.000000	29	0.000000	-18.55670
X022163	1.000000	0.000000	30	0.000000	0.000000

31	0.000000	-36.57390	69	0.000000	-49.84280
32	0.000000	-19.44420	70	0.000000	-23.82250
33	0.000000	-43.99880	71	0.000000	-41.81520
34	0.000000	-59.07490	72	0.000000	-13.41210
35	0.000000	-14.99230	73	0.000000	-5.294100
36	1.000000	0.000000	74	0.000000	-31.39610
37	0.000000	-64.27350	75	0.000000	-4.141000
38	0.000000	-23.45190	76	0.000000	-31.70030
39	0.000000	-27.27660	77	0.000000	-37.13370
40	0.000000	-21.32160	78	0.000000	0.000000
41	0.000000	-8.718300	79	0.000000	-35.36350
42	0.000000	-42.18510	80	1.000000	0.000000
43	0.000000	-8.718400	81	0.000000	0.000000
44	0.000000	-49.42030	82	0.000000	-35.99470
45	0.000000	-2.840500	83	1.000000	0.000000
46	0.000000	-49.04580	84	0.000000	-13.15230
47	0.000000	0.000000	85	0.000000	-26.84830
48	0.000000	0.000000	86	0.000000	-33.47020
49	1.000000	0.000000	87	0.000000	-31.12700
50	0.000000	-45.94130	88	0.000000	-29.54250
51	0.000000	-78.19150	89	0.000000	-47.12490
52	0.000000	0.000000	90	0.000000	0.000000
53	0.000000	-51.52960	91	0.000000	-53.04400
54	1.000000	0.000000	92	0.000000	-61.33940
55	1.000000	0.000000	93	0.000000	-18.23320
56	0.000000	-49.75050	94	0.000000	-6.550100
57	0.000000	-21.40740	95	0.000000	0.000000
58	0.000000	-63.26720	96	0.000000	-4.641600
59	0.000000	-4.639300	97	0.000000	-37.68080
60	0.000000	-34.06510	98	0.000000	-54.20320
61	0.000000	0.000000	99	0.000000	0.000000
62	0.000000	-40.15310	100	0.000000	-16.52100
63	0.000000	0.000000	101	0.000000	0.000000
64	0.000000	-48.80870	102	0.000000	-32.79970
65	0.000000	-20.35730	103	0.000000	-5.741200
66	1.000000	0.000000	104	0.000000	-29.40930
67	0.000000	-41.11350	105	0.000000	-8.632500
68	0.000000	-7.695100	106	0.000000	-39.19100

107	0.000000	-1.621200	145	0.000000	0.000000
108	0.000000	-35.99520	146	0.000000	-1.082800
109	0.000000	0.000000	147	0.000000	-28.06680
110	0.000000	-39.93320	148	0.000000	0.000000
111	0.000000	-61.30780	149	0.000000	-67.28560
112	0.000000	-52.47630	150	1.000000	0.000000
113	1.000000	0.000000	151	0.500000	0.000000
114	0.000000	-51.10530	152	0.500000	0.000000
115	0.000000	0.000000	153	0.000000	0.000000
116	1.000000	0.000000	154	0.000000	0.000000
117	0.000000	-92.34630	155	0.000000	0.000000
118	0.000000	-23.97350	156	1.000000	0.000000
119	0.000000	-47.41260	157	1.000000	0.000000
120	0.000000	-48.02390	158	0.000000	-24.04160
121	0.000000	0.000000	159	1.000000	0.000000
122	0.000000	-51.39180	160	1.000000	0.000000
123	0.000000	0.000000	161	0.000000	-76.00300
124	0.000000	-32.89480	162	1.000000	0.000000
125	0.000000	-24.65080	163	0.000000	-31.42870
126	0.000000	-113.9360	164	0.000000	0.000000
127	0.000000	-38.21500	165	0.000000	0.000000
128	0.000000	0.000000	166	1.000000	0.000000
129	1.000000	0.000000	167	0.000000	0.000000
130	0.000000	-102.2050	168	0.000000	0.000000
131	0.000000	-76.84350	169	0.000000	0.000000
132	0.000000	-51.30890	170	0.500000	0.000000
133	0.000000	0.000000	171	1.000000	0.000000
134	0.000000	-53.70470	172	1.000000	0.000000
135	1.000000	0.000000	173	0.500000	0.000000
136	0.000000	-53.79010	174	0.000000	-12.46715
137	0.000000	0.000000	175	0.000000	0.000000
138	1.000000	0.000000	176	0.000000	-177.4060
139	0.000000	-32.22470	177	1.000000	0.000000
140	0.000000	-66.46730	178	0.000000	0.000000
141	0.000000	-30.02390	179	1.000000	0.000000
142	0.000000	-37.68070	180	1.000000	0.000000
143	0.000000	0.000000	181	1.000000	0.000000
144	0.000000	-51.09630	182	0.000000	0.000000

183	0.000000	-129.8718	221	1.000000	0.000000
184	0.000000	0.000000	222	1.000000	0.000000
185	1.000000	0.000000	223	0.000000	0.000000
186	0.000000	0.000000	224	0.000000	0.000000
187	0.000000	0.000000	225	0.000000	0.000000
188	0.000000	-133.9230	226	0.000000	-126.5455
189	0.000000	-74.37610	227	0.000000	-51.73400
190	0.000000	-130.0520	228	0.000000	0.000000
191	1.000000	0.000000	229	0.000000	0.000000
192	1.000000	0.000000	230	0.000000	-19.33590
193	0.000000	0.000000	231	0.000000	0.000000
194	0.000000	0.000000	232	0.000000	0.000000
195	1.000000	0.000000	233	0.000000	0.000000
196	1.000000	0.000000	234	0.000000	-25.86790
197	1.000000	0.000000	235	0.000000	0.000000
198	1.000000	0.000000	236	0.000000	0.000000
199	0.000000	-0.9505000	237	1.000000	0.000000
200	0.000000	0.000000	238	0.000000	-38.99860
201	0.000000	0.000000	239	1.000000	0.000000
202	0.000000	0.000000	240	2.000000	0.000000
203	0.000000	0.000000	241	0.000000	-26.84770
204	1.000000	0.000000	242	0.000000	0.000000
205	0.000000	0.000000	243	0.000000	0.000000
206	1.000000	0.000000	244	0.000000	-19.11530
207	0.000000	0.000000	245	0.000000	0.000000
208	1.000000	0.000000	246	0.000000	-39.22580
209	0.000000	-56.97720	247	0.000000	0.000000
210	1.000000	0.000000	248	1.000000	0.000000
211	1.000000	0.000000	249	0.000000	0.000000
212	1.000000	0.000000	250	0.000000	0.000000
213	0.000000	-144.8540	251	0.000000	-194.6530
214	0.000000	0.000000	252	1.000000	0.000000
215	0.000000	0.000000	253	0.000000	-28.04910
216	0.000000	-16.66390	254	1.000000	0.000000
217	0.000000	0.000000	255	0.000000	-21.48530
218	0.000000	0.000000	256	0.000000	0.000000
219	0.000000	-33.40170	257	0.000000	0.000000
220	0.000000	0.000000	258	1.000000	0.000000

259	0.000000	0.000000	297	1.000000	0.000000
260	0.000000	0.000000	298	0.000000	0.000000
261	0.000000	-19.75710	299	1.000000	0.000000
262	0.000000	0.000000	300	1.000000	0.000000
263	0.000000	0.000000	301	0.000000	-5.571500
264	0.000000	0.000000	302	0.000000	-143.8770
265	1.000000	0.000000	303	1.000000	0.000000
266	1.000000	0.000000	304	1.000000	0.000000
267	0.000000	0.000000	305	1.000000	0.000000
268	0.000000	-0.2277000	306	0.000000	0.000000
269	0.000000	0.000000	307	0.000000	0.000000
270	0.000000	-5.696400	308	0.000000	0.000000
271	0.000000	0.000000	309	1.000000	0.000000
272	0.000000	0.000000	310	0.000000	-41.78730
273	1.000000	0.000000	311	0.000000	0.000000
274	0.000000	-10.69010	312	1.000000	0.000000
275	0.000000	0.000000	313	0.000000	0.000000
276	0.000000	0.000000	314	0.000000	-77.44140
277	1.000000	0.000000	315	0.000000	0.000000
278	0.000000	-29.39090	316	0.000000	-30.65820
279	0.000000	-85.79770	317	0.000000	0.000000
280	1.000000	0.000000	318	0.5000000	0.000000
281	1.000000	0.000000	319	0.000000	0.000000
282	0.000000	0.000000	320	0.000000	0.000000
283	0.000000	0.000000	321	1.000000	0.000000
284	0.000000	0.000000	322	0.000000	0.000000
285	0.000000	0.000000	323	0.000000	0.000000
286	0.000000	0.000000	324	0.5000000	0.000000
287	0.000000	-31.72420	325	1.000000	0.000000
288	0.000000	-95.80120	326	0.000000	0.000000
289	0.000000	-213.5249	327	0.000000	-55.77790
290	1.000000	0.000000	328	0.000000	0.000000
291	1.000000	0.000000	329	0.000000	0.000000
292	0.000000	0.000000	330	1.000000	0.000000
293	0.000000	-1.190700	331	1.000000	0.000000
294	0.000000	0.000000	332	0.000000	-5.177700
295	0.000000	0.000000	333	0.000000	0.000000
296	1.000000	0.000000	334	1.000000	0.000000

335	0.000000	0.000000	373	1.000000	0.000000
336	0.000000	-1.078650	374	0.000000	0.000000
337	0.000000	0.000000	375	1.000000	0.000000
338	0.000000	0.000000	376	1.000000	0.000000
339	0.5000000	0.000000	377	0.000000	0.000000
340	0.5000000	0.000000	378	0.000000	0.000000
341	0.000000	0.000000	379	0.000000	-39.89780
342	0.000000	-39.19030	380	1.000000	0.000000
343	1.000000	0.000000	381	0.000000	0.000000
344	1.000000	0.000000	382	0.000000	0.000000
345	0.000000	0.000000	383	0.000000	-8.262500
346	0.000000	-31.40000	384	0.000000	0.000000
347	0.000000	0.000000	385	0.000000	0.000000
348	0.000000	-38.09480	386	1.000000	0.000000
349	0.000000	0.000000	387	0.000000	-81.44970
350	0.000000	0.000000	388	1.000000	0.000000
351	0.000000	-1.435500	389	0.000000	0.000000
352	0.000000	-12.42720	390	1.000000	0.000000
353	0.000000	0.000000	391	0.000000	0.000000
354	0.000000	-54.56650	392	1.000000	0.000000
355	0.000000	-102.4280	393	0.000000	-12.55250
356	0.000000	-45.83580	394	0.000000	0.000000
357	1.000000	0.000000	395	0.000000	0.000000
358	0.000000	0.000000	396	0.000000	0.000000
359	1.000000	0.000000	397	0.000000	0.000000
360	1.000000	0.000000	398	0.000000	-5.320600
361	1.000000	0.000000	399	0.000000	0.000000
362	0.000000	0.000000	400	1.000000	0.000000
363	0.000000	0.000000	401	0.000000	0.000000
364	0.000000	0.000000	402	0.000000	-5.947100
365	1.000000	0.000000	403	1.000000	0.000000
366	1.000000	0.000000	404	0.000000	0.000000
367	1.000000	0.000000	405	0.000000	-64.66030
368	0.000000	0.000000	406	1.000000	0.000000
369	0.000000	-44.95010	407	0.000000	0.000000
370	1.000000	0.000000	408	0.000000	0.000000
371	0.000000	0.000000	409	0.000000	0.000000
372	0.000000	0.000000	410	0.000000	0.000000

411	1.000000	0.000000	449	1.000000	0.000000
412	0.000000	0.000000	450	1.000000	0.000000
413	1.000000	0.000000	451	1.000000	0.000000
414	0.000000	0.000000	452	1.000000	0.000000
415	1.000000	0.000000	453	1.000000	0.000000
416	0.000000	0.000000	454	0.000000	0.000000
417	0.000000	-117.5509	455	0.000000	-42.15830
418	0.000000	0.000000	456	1.000000	0.000000
419	1.000000	0.000000	457	0.000000	0.000000
420	0.000000	0.000000	458	0.000000	-75.25180
421	0.000000	0.000000	459	0.000000	0.000000
422	1.000000	0.000000	460	0.000000	0.000000
423	1.000000	0.000000	461	1.000000	0.000000
424	0.000000	0.000000	462	0.000000	-33.03050
425	0.000000	0.000000	463	0.000000	-51.13580
426	0.000000	0.000000	464	0.000000	-143.3500
427	1.000000	0.000000	465	0.000000	0.000000
428	1.000000	0.000000	466	1.000000	0.000000
429	1.000000	0.000000	467	1.000000	0.000000
430	1.000000	0.000000	468	0.000000	0.000000
431	0.000000	0.000000	469	1.000000	0.000000
432	1.000000	0.000000	470	0.000000	0.000000
433	1.000000	0.000000	471	0.000000	0.000000
434	1.000000	0.000000	472	1.000000	0.000000
435	1.000000	0.000000	473	0.000000	0.000000
436	1.000000	0.000000	474	0.000000	-44.30190
437	1.000000	0.000000	475	0.000000	0.000000
438	1.000000	0.000000	476	0.000000	-200.6950
439	1.000000	0.000000	477	0.000000	-17.67320
440	0.000000	0.000000	478	0.000000	0.000000
441	0.000000	-52.05810	479	1.000000	0.000000
442	0.000000	-135.4382	480	0.000000	0.000000
443	1.000000	0.000000	481	0.500000	0.000000
444	1.000000	0.000000	482	0.000000	0.000000
445	0.000000	0.000000	483	1.000000	0.000000
446	0.000000	0.000000	484	1.000000	0.000000
447	1.000000	0.000000	485	0.000000	0.000000
448	1.000000	0.000000	486	0.000000	-9.078000

487	0.000000	0.000000	525	1.000000	0.000000
488	0.5000000	0.000000	526	1.000000	0.000000
489	1.000000	0.000000	527	2.000000	0.000000
490	0.000000	0.000000	528	1.000000	0.000000
491	0.000000	0.000000	529	0.000000	-9.950300
492	1.000000	0.000000	530	0.000000	0.000000
493	0.000000	0.000000	531	0.000000	0.000000
494	0.000000	0.000000	532	0.000000	-22.53370
495	0.000000	0.000000	533	1.000000	0.000000
496	1.000000	0.000000	534	0.000000	0.000000
497	0.000000	-76.82530	535	0.000000	0.000000
498	1.000000	0.000000	536	0.000000	0.000000
499	0.5000000	0.000000	537	1.000000	0.000000
500	0.000000	0.000000	538	1.000000	0.000000
501	0.000000	-1.830350	539	1.000000	0.000000
502	0.000000	0.000000	540	1.000000	0.000000
503	0.5000000	0.000000	541	1.000000	0.000000
504	1.000000	0.000000	542	0.000000	-10.18210
505	1.000000	0.000000	543	0.000000	0.000000
506	0.000000	0.000000	544	1.000000	0.000000
507	0.000000	0.000000	545	1.000000	0.000000
508	0.000000	0.000000	546	0.000000	0.000000
509	1.000000	0.000000	547	1.000000	0.000000
510	1.000000	0.000000	548	0.000000	0.000000
511	1.000000	0.000000	549	1.000000	0.000000
512	1.000000	0.000000	550	1.000000	0.000000
513	1.000000	0.000000	551	1.000000	0.000000
514	1.000000	0.000000	552	1.000000	0.000000
515	0.000000	0.000000	553	1.000000	0.000000
516	0.000000	0.000000	554	1.000000	0.000000
517	1.000000	0.000000	555	0.000000	0.000000
518	0.000000	0.000000	556	1.000000	0.000000
519	0.000000	0.000000	557	1.000000	0.000000
520	0.000000	0.000000	558	2.000000	0.000000
521	0.000000	0.000000	559	1.000000	0.000000
522	0.000000	0.000000	560	0.000000	0.000000
523	0.000000	0.000000	561	1.000000	0.000000
524	0.000000	0.000000	562	1.000000	0.000000

563	1.000000	0.000000	601	0.000000	-3.100200
564	1.000000	0.000000	602	0.000000	0.000000
565	0.000000	0.000000	603	0.000000	0.000000
566	1.000000	0.000000	604	0.000000	0.000000
567	0.000000	0.000000	605	1.000000	0.000000
568	0.000000	0.000000	606	0.000000	0.000000
569	0.000000	0.000000	607	0.000000	0.000000
570	0.000000	0.000000	608	0.000000	-7.934300
571	0.000000	0.000000	609	0.000000	0.000000
572	0.000000	0.000000	610	0.000000	0.000000
573	1.000000	0.000000	611	0.000000	-10.95750
574	0.000000	0.000000	612	1.000000	0.000000
575	0.000000	0.000000	613	0.000000	0.000000
576	0.000000	-60.66680	614	1.000000	0.000000
577	1.000000	0.000000	615	1.000000	0.000000
578	1.000000	0.000000	616	0.000000	-33.24050
579	0.000000	-35.22800	617	0.000000	-47.00180
580	0.000000	0.000000	618	1.000000	0.000000
581	0.000000	0.000000	619	1.000000	0.000000
582	0.000000	0.000000	620	1.000000	0.000000
583	0.000000	-0.7907000	621	0.000000	0.000000
584	0.000000	0.000000	622	1.000000	0.000000
585	0.000000	0.000000	623	0.000000	-69.57330
586	0.000000	0.000000	624	0.000000	0.000000
587	0.000000	0.000000	625	1.000000	0.000000
588	0.000000	0.000000	626	0.000000	0.000000
589	0.000000	0.000000	627	0.000000	0.000000
590	0.000000	-55.00270	628	2.000000	0.000000
591	1.000000	0.000000	629	0.000000	0.000000
592	1.000000	0.000000	630	0.000000	0.000000
593	1.000000	0.000000	631	1.000000	0.000000
594	1.000000	0.000000	632	1.000000	0.000000
595	0.000000	0.000000	633	1.000000	0.000000
596	1.000000	0.000000	634	1.000000	0.000000
597	0.000000	0.000000	635	2.000000	0.000000
598	0.000000	0.000000	636	1.000000	0.000000
599	0.000000	-7.614900	637	1.000000	0.000000
600	0.000000	0.000000	638	1.000000	0.000000

639	1.000000	0.000000	643	0.000000	-1.022100
640	0.000000	0.000000	644	1.000000	0.000000
641	2.000000	0.000000	645	0.000000	-54.01180
642	1.000000	0.000000	646	0.000000	0.000000



Mapa 5

Global optimal solution found.

Objective value: 15691.03

Infeasibilities: 0.000000

Total solver iterations: 146

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X020023	1.000000	0.000000
X001007	1.000000	0.000000	X021022	1.000000	0.000000
X002004	0.000000	0.000000	X021024	1.000000	0.000000
X002003	1.000000	0.000000	X022033	1.000000	0.000000
X003006	1.000000	0.000000	X023024	1.000000	0.000000
X004008	1.000000	0.000000	X024027	0.000000	0.000000
X004005	1.000000	0.000000	X025026	1.000000	0.000000
X005006	1.000000	0.000000	X025029	1.000000	0.000000
X005009	0.000000	42.40000	X026030	0.000000	80.79500
X006011	0.000000	39.53000	X026027	1.000000	0.000000
X007016	1.000000	0.000000	X027028	1.000000	0.000000
X007008	0.000000	0.000000	X027031	0.000000	287.6850
X008009	1.000000	0.000000	X028033	0.000000	0.000000
X009010	1.000000	0.000000	X028034	1.000000	0.000000
X010011	1.000000	0.000000	X030031	1.000000	0.000000
X011012	1.000000	0.000000	X030032	1.000000	0.000000
X012013	1.000000	0.000000	X031035	1.000000	0.000000
X013014	1.000000	0.000000	X032036	1.000000	0.000000
X013029	1.000000	0.000000	X033038	1.000000	0.000000
X014015	1.000000	0.000000	X034040	1.000000	0.000000
X015016	1.000000	0.000000	X034035	0.000000	7.610000
X010016	0.000000	98.34000	X034044	1.000000	0.000000
X017018	1.000000	0.000000	X035036	1.000000	0.000000
X017025	0.000000	0.000000	X036048	0.000000	259.6800
X018019	1.000000	0.000000	X038039	1.000000	0.000000
X019020	1.000000	0.000000	X039041	0.000000	128.7500
X019023	0.000000	0.000000	X039097	1.000000	0.000000
X020021	0.000000	0.000000	X040041	1.000000	0.000000
			X041042	1.000000	0.000000

X042044	1.000000	0.000000	X066071	0.000000	55.93000
X045046	1.000000	0.000000	X067068	1.000000	0.000000
X045051	0.000000	133.1800	X067072	0.000000	0.000000
X045048	1.000000	0.000000	X068069	0.000000	22.74000
X046052	0.5000000	0.000000	X068073	0.000000	311.7100
X047052	1.000000	0.000000	X069074	1.000000	0.000000
X047051	1.000000	0.000000	X070080	0.000000	0.000000
X047054	0.000000	0.000000	X070071	1.000000	0.000000
X048056	1.000000	0.000000	X071072	1.000000	0.000000
X048049	1.000000	0.000000	X072073	1.000000	0.000000
X049050	0.000000	0.000000	X073074	1.000000	0.000000
X049057	1.000000	0.000000	X074075	0.000000	395.2500
X050051	1.000000	0.000000	X075076	1.000000	0.000000
X050053	1.000000	0.000000	X076085	0.000000	34.09000
X052055	0.000000	0.000000	X077078	1.000000	0.000000
X053054	1.000000	0.000000	X077083	1.000000	0.000000
X053058	0.000000	915.5850	X078079	1.000000	0.000000
X054062	1.000000	0.000000	X078083	0.000000	0.000000
X055062	0.000000	108.3700	X079080	1.000000	0.000000
X056057	1.000000	0.000000	X080081	1.000000	0.000000
X056065	0.000000	0.000000	X081082	1.000000	0.000000
X057058	0.000000	66.02000	X082100	1.000000	0.000000
X057066	0.000000	69.87000	X082103	1.000000	0.000000
X058059	1.000000	0.000000	X083084	1.000000	0.000000
X058062	1.000000	0.000000	X084086	1.000000	0.000000
X059060	1.000000	0.000000	X084088	0.000000	58.34500
X059063	0.000000	0.000000	X085086	0.000000	0.000000
X060061	1.000000	0.000000	X086087	1.000000	0.000000
X060064	0.000000	236.4500	X087091	1.000000	0.000000
X061062	0.000000	217.3450	X088089	0.000000	0.000000
X061075	1.000000	0.000000	X085089	1.000000	0.000000
X062076	1.000000	0.000000	X085090	1.000000	0.000000
X063064	1.000000	0.000000	X089090	1.000000	0.000000
X063068	1.000000	0.000000	X017093	1.000000	0.000000
X064069	1.000000	0.000000	X015093	1.000000	0.000000
X065066	1.000000	0.000000	X094106	1.000000	0.000000
X065070	1.000000	0.000000	X094096	1.000000	0.000000
X066067	1.000000	0.000000	X041096	0.000000	0.000000

X096097	1.000000	0.000000	24	0.000000	-107.7200
X090099	1.000000	0.000000	25	0.000000	-14.20000
X088099	1.000000	0.000000	26	0.000000	-19.65000
X081099	0.000000	0.000000	27	1.000000	0.000000
X100101	0.000000	0.000000	28	0.000000	-108.4100
X100103	1.000000	0.000000	29	0.000000	-242.8900
X101104	1.000000	0.000000	30	0.000000	-250.2300
X101102	1.000000	0.000000	31	0.000000	0.000000
X102105	1.000000	0.000000	32	0.000000	-319.6600
X103104	0.000000	74.22000	33	0.000000	0.000000
X104105	1.000000	0.000000	34	0.000000	-11.39000
X055106	1.000000	0.000000	35	1.000000	0.000000
X052106	0.000000	0.000000	36	0.000000	-64.63000
			37	0.000000	0.000000
			38	0.000000	-163.7900
			39	0.000000	-75.66500
			40	0.000000	0.000000
			41	0.000000	-62.88500
			42	0.000000	-15.08500
			43	0.000000	-75.01000
			44	0.000000	0.000000
			45	0.000000	-39.42000
			46	0.000000	-73.38000
			47	0.000000	0.000000
			48	0.000000	-77.99000
			49	1.000000	0.000000
			50	0.000000	0.000000
			51	0.000000	-108.2500
			52	0.000000	-69.86000
			53	0.000000	-3.510000
			54	0.000000	-109.5300
			55	0.000000	0.000000
			56	0.000000	-32.44000
			57	0.000000	-57.34000
			58	0.000000	-62.95000
			59	0.000000	-30.71000
			60	0.000000	-27.31000
			61	0.000000	-50.37000

Row	Slack or Surplus	Dual Price
1	15772.15	-1.000000
2	0.000000	0.000000
3	0.000000	-34.97000
4	0.000000	-29.20000
5	0.000000	-69.20000
6	0.000000	-17.63000
7	0.000000	-17.46000
8	0.000000	-52.25000
9	0.000000	0.000000
10	0.000000	-47.26000
11	1.000000	0.000000
12	1.000000	0.000000
13	0.000000	-38.65000
14	0.000000	-114.1200
15	0.000000	-63.57500
16	0.000000	-80.34500
17	0.000000	-89.65500
18	0.000000	-64.43500
19	0.000000	-43.69500
20	0.000000	0.000000
21	0.000000	-83.41000
22	0.000000	-0.1750000
23	0.000000	-127.3950

62	0.000000	-27.45000	100	1.000000	0.000000
63	0.000000	-99.83000	101	0.000000	0.000000
64	0.000000	0.000000	102	0.000000	0.000000
65	0.000000	0.000000	103	0.000000	-31.36500
66	0.000000	-61.87000	104	0.000000	0.000000
67	1.000000	0.000000	105	1.000000	0.000000
68	0.000000	-75.68000	106	0.000000	0.000000
69	0.000000	-48.44000	107	0.000000	0.000000
70	0.000000	-49.30000	108	1.000000	0.000000
71	0.000000	-6.110000	109	0.000000	0.000000
72	0.000000	-65.09000	110	0.000000	-114.1200
73	0.000000	-64.59500	111	0.000000	0.000000
74	1.000000	0.000000	112	0.000000	0.000000
75	0.000000	-211.8300	113	0.000000	0.000000
76	0.000000	0.000000	114	0.000000	0.000000
77	0.000000	-120.6300	115	1.000000	0.000000
78	0.000000	-23.45000	116	0.000000	0.000000
79	0.000000	-49.95000	117	1.000000	0.000000
80	0.000000	-152.6000	118	0.000000	-250.5500
81	0.000000	-59.58000	119	0.000000	-3.730000
82	0.000000	-51.62000	120	0.000000	-283.9100
83	0.000000	0.000000	121	1.000000	0.000000
84	0.000000	-167.8900	122	0.000000	-178.2900
85	0.000000	-28.30000	123	0.000000	-113.7200
86	1.000000	0.000000	124	0.000000	-11.22000
87	1.000000	0.000000	125	0.5000000	0.000000
88	1.000000	0.000000	126	1.000000	0.000000
89	0.000000	-22.20000	127	2.000000	0.000000
90	0.000000	0.000000	128	0.000000	-96.33000
91	1.000000	0.000000	129	0.000000	0.000000
92	0.000000	0.000000	130	0.000000	0.000000
93	0.000000	-61.14000	131	0.5000000	0.000000
94	1.000000	0.000000	132	1.000000	0.000000
95	0.000000	-59.58000	133	0.000000	0.000000
96	1.000000	0.000000	134	1.000000	0.000000
97	1.000000	0.000000	135	1.000000	0.000000
98	0.000000	0.000000	136	0.000000	0.000000
99	0.000000	-11.14000	137	1.000000	0.000000

138	1.000000	0.000000	176	0.000000	0.000000
139	1.000000	0.000000	177	0.000000	-92.21000
140	0.000000	0.000000	178	1.000000	0.000000
141	0.000000	-29.35000	179	0.000000	-138.9500
142	0.000000	0.000000	180	0.000000	0.000000
143	0.000000	0.000000	181	1.000000	0.000000
144	0.000000	0.000000	182	0.000000	-122.6600
145	1.000000	0.000000	183	0.000000	0.000000
146	1.000000	0.000000	184	0.000000	0.000000
147	0.000000	0.000000	185	1.000000	0.000000
148	0.000000	0.000000	186	0.000000	0.000000
149	0.000000	0.000000	187	0.000000	0.000000
150	0.000000	0.000000	188	0.000000	0.000000
151	0.000000	0.000000	189	0.000000	0.000000
152	0.000000	-16.24000	190	1.000000	0.000000
153	1.000000	0.000000	191	0.000000	0.000000
154	0.000000	0.000000	192	1.000000	0.000000
155	1.000000	0.000000	193	0.000000	-94.89000
156	0.000000	-119.1500	194	1.000000	0.000000
157	1.000000	0.000000	195	0.000000	-66.47000
158	0.000000	-57.28000	196	1.000000	0.000000
159	0.000000	0.000000	197	0.000000	-16.35000
160	1.000000	0.000000	198	0.000000	0.000000
161	1.000000	0.000000	199	0.000000	-19.30500
162	0.000000	0.000000	200	0.000000	0.000000
163	1.000000	0.000000	201	0.000000	0.000000
164	1.000000	0.000000	202	1.000000	0.000000
165	0.000000	0.000000	203	0.000000	-97.40000
166	0.000000	-45.77000	204	1.000000	0.000000
167	0.000000	0.000000	205	0.000000	0.000000
168	0.000000	-56.17500	206	1.000000	0.000000
169	1.000000	0.000000	207	0.000000	-30.13500
170	0.000000	-257.1000	208	0.000000	0.000000
171	0.000000	0.000000	209	0.000000	-62.81500
172	0.000000	0.000000	210	0.000000	-300.8100
173	0.000000	0.000000	211	1.000000	0.000000
174	1.000000	0.000000	212	1.000000	0.000000
175	0.000000	0.000000	213	0.000000	0.000000

214	0.000000	0.000000	252	1.000000	0.000000
215	1.000000	0.000000	253	0.000000	0.000000
216	0.000000	0.000000	254	0.000000	-21.43000
217	0.000000	-475.9000	255	0.000000	0.000000
218	0.000000	0.000000	256	0.000000	-161.1700
219	0.000000	0.000000	257	0.000000	0.000000
220	0.000000	-408.8300	258	0.000000	-176.6800
221	0.000000	0.000000	259	1.000000	0.000000
222	0.000000	-90.68000	260	0.000000	0.000000
223	0.000000	0.000000	261	1.000000	0.000000
224	0.000000	0.000000	262	0.000000	0.000000
225	0.000000	-5.815000	263	0.000000	0.000000
226	0.000000	0.000000	264	1.000000	0.000000
227	1.000000	0.000000	265	0.000000	0.000000
228	0.000000	0.000000	266	0.000000	0.000000
229	1.000000	0.000000	267	1.000000	0.000000
230	1.000000	0.000000	268	1.000000	0.000000
231	0.5000000	0.000000	269	1.000000	0.000000
232	0.000000	-13.65500	270	0.000000	-662.3100
233	1.000000	0.000000	271	0.000000	-356.5900
234	0.000000	0.000000	272	0.000000	0.000000
235	0.000000	-4.330000	273	0.000000	-328.3000
236	0.000000	0.000000	274	0.000000	0.000000
237	1.000000	0.000000	275	0.000000	0.000000
238	0.000000	0.000000	276	1.000000	0.000000
239	0.000000	0.000000	277	0.000000	-301.6000
240	0.000000	0.000000	278	0.000000	-129.4800
241	1.000000	0.000000	279	0.000000	0.000000
242	1.000000	0.000000	280	0.000000	0.000000
243	1.000000	0.000000	281	0.000000	-59.26500
244	1.000000	0.000000	282	1.000000	0.000000
245	0.000000	0.000000	283	0.000000	0.000000
246	0.000000	0.000000	284	0.000000	0.000000
247	0.000000	-84.24000	285	0.000000	0.000000
248	0.000000	0.000000	286	0.000000	0.000000
249	0.000000	0.000000	287	1.000000	0.000000
250	1.000000	0.000000	288	0.000000	0.000000
251	1.000000	0.000000	289	0.000000	0.000000

290	0.000000	0.000000	328	1.000000	0.000000
291	1.000000	0.000000	329	0.000000	-15.45500
292	1.000000	0.000000	330	0.000000	-0.4000000
293	0.000000	0.000000	331	0.000000	0.000000
294	1.000000	0.000000	332	0.000000	-15.34000
295	0.000000	0.000000	333	0.000000	0.000000
296	1.000000	0.000000	334	0.000000	0.000000
297	0.000000	0.000000	335	1.000000	0.000000
298	0.000000	0.000000	336	1.000000	0.000000
299	0.000000	-67.96000	337	1.000000	0.000000
300	0.000000	0.000000	338	0.000000	-24.01000
301	1.000000	0.000000	339	0.000000	0.000000
302	0.000000	0.000000	340	0.000000	0.000000
303	1.000000	0.000000	341	0.000000	0.000000
304	0.000000	0.000000	342	1.000000	0.000000
305	0.000000	0.000000	343	0.000000	0.000000
306	1.000000	0.000000	344	0.000000	0.000000
307	2.000000	0.000000	345	0.000000	-20.34000
308	1.000000	0.000000	346	0.000000	-23.04000
309	0.000000	0.000000	347	1.000000	0.000000
310	1.000000	0.000000	348	1.000000	0.000000
311	0.000000	0.000000	349	0.000000	-4.190000
312	1.000000	0.000000	350	0.000000	0.000000
313	0.5000000	0.000000	351	1.000000	0.000000
314	0.000000	-6.065000	352	1.000000	0.000000
315	1.000000	0.000000	353	0.000000	-36.29500
316	1.000000	0.000000	354	1.000000	0.000000
317	0.000000	-113.5600	355	1.000000	0.000000
318	0.000000	0.000000	356	0.000000	-226.7100
319	0.000000	0.000000	357	1.000000	0.000000
320	0.000000	-226.9400	358	0.000000	0.000000
321	0.000000	0.000000	359	0.000000	0.000000
322	1.000000	0.000000	360	1.000000	0.000000
323	0.000000	-5.660000	361	0.000000	0.000000
324	1.000000	0.000000	362	1.000000	0.000000
325	0.000000	0.000000	363	1.000000	0.000000
326	0.000000	0.000000	364	1.000000	0.000000
327	0.000000	0.000000	365	1.000000	0.000000

366	1.000000	0.000000	371	1.000000	0.000000
367	0.000000	0.000000	372	1.000000	0.000000
368	1.000000	0.000000	373	0.000000	0.000000
369	0.000000	0.000000	374	0.000000	-0.9450000
370	1.000000	0.000000			



Mapa 6

Global optimal solution found.

Objective value: 8423.415

Infeasibilities: 0.000000

Total solver iterations: 101

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X017018	1.000000	0.000000
X001038	1.000000	0.000000	X017021	0.000000	171.6977
X002003	1.000000	0.000000	X018019	1.000000	0.000000
X002006	0.000000	117.8939	X018020	0.000000	0.000000
X003004	1.000000	0.000000	X019020	1.000000	0.000000
X003015	0.000000	285.1295	X020021	1.000000	0.000000
X004005	1.000000	0.000000	X021021	1.000000	0.000000
X004014	0.000000	188.3882	X022023	1.000000	0.000000
X005006	1.000000	0.000000	X023024	1.000000	0.000000
X005011	0.000000	13.58790	X023029	0.000000	95.92660
X006007	1.000000	0.000000	X024025	1.000000	0.000000
X007008	1.000000	0.000000	X024059	0.000000	30.13130
X007037	0.000000	140.1250	X025026	1.000000	0.000000
X008009	1.000000	0.000000	X025050	0.000000	50.29970
X008036	0.000000	193.8629	X026027	1.000000	0.000000
X009010	1.000000	0.000000	X026049	0.000000	79.87130
X009035	0.000000	139.6807	X027028	1.000000	0.000000
X010011	1.000000	0.000000	X027048	0.000000	109.3888
X010034	0.000000	240.4823	X028029	1.000000	0.000000
X011012	1.000000	0.000000	X028047	0.000000	99.63720
X012013	0.000000	36.89430	X029030	1.000000	0.000000
X012033	0.000000	174.4379	X030031	1.000000	0.000000
X013014	1.000000	0.000000	X030032	0.000000	54.68450
X013078	1.000000	0.000000	X030039	0.000000	71.76180
X014015	1.000000	0.000000	X031040	0.000000	0.000000
X015016	1.000000	0.000000	X031042	1.000000	0.000000
X016017	1.000000	0.000000	X032033	1.000000	0.000000
X016022	1.000000	0.000000	X032039	1.000000	0.000000
			X033034	1.000000	0.000000

X034035	1.000000	0.000000	X063064	1.000000	0.000000
X035036	1.000000	0.000000	X063071	0.000000	214.4458
X036037	1.000000	0.000000	X064070	0.000000	207.5835
X037077	1.000000	0.000000	X064065	1.000000	0.000000
X038045	1.000000	0.000000	X065069	1.000000	0.000000
X039040	1.000000	0.000000	X065066	1.000000	0.000000
X040041	1.000000	0.000000	X066067	1.000000	0.000000
X041042	1.000000	0.000000	X067068	1.000000	0.000000
X041043	1.000000	0.000000	X069070	1.000000	0.000000
X043046	0.000000	100.5538	X070071	1.000000	0.000000
X043044	1.000000	0.000000	X071072	1.000000	0.000000
X044054	0.000000	0.000000	X073075	0.5000000	0.000000
X044045	1.000000	0.000000	X044073	0.000000	0.000000
X044055	0.000000	12.87720	X073074	1.000000	0.000000
X046054	1.000000	0.000000	X069074	0.000000	44.98500
X046047	1.000000	0.000000	X075076	1.000000	0.000000
X047048	1.000000	0.000000	X038076	0.000000	0.000000
X048049	1.000000	0.000000	X074076	1.000000	0.000000
X049050	1.000000	0.000000	X076077	1.000000	0.000000
X050051	1.000000	0.000000	X012078	1.000000	0.000000
X051052	1.000000	0.000000	X019078	0.000000	0.000000
X051059	1.000000	0.000000	X057079	1.000000	0.000000
X051058	0.000000	165.7606	X052079	0.000000	45.02240
X052053	1.000000	0.000000	X056080	0.000000	76.50650
X053057	0.000000	25.08060	X079080	1.000000	0.000000
X054055	1.000000	0.000000	X053081	1.000000	0.000000
X055072	1.000000	0.000000	X054081	0.000000	0.000000
X056082	1.000000	0.000000	X081082	1.000000	0.000000
X056057	1.000000	0.000000			
X058080	1.000000	0.000000	Row	Slack or Surplus	Dual Price
X058060	1.000000	0.000000	1	8423.415	-1.000000
X059060	1.000000	0.000000	2	0.000000	-39.41420
X060061	0.000000	0.000000	3	0.000000	0.000000
X061062	1.000000	0.000000	4	0.000000	-56.85550
X061066	0.000000	0.000000	5	0.000000	-53.10050
X061068	1.000000	0.000000	6	0.000000	-4.874300
X062063	1.000000	0.000000	7	0.000000	-59.07180
X062072	0.000000	213.6573	8	0.000000	0.000000

9	0.000000	-48.80630	47	0.000000	-51.61900
10	0.000000	0.000000	48	1.000000	0.000000
11	0.000000	-40.04360	49	0.000000	-48.12940
12	0.000000	-17.32600	50	0.000000	-29.86110
13	0.000000	0.000000	51	0.000000	-49.56860
14	0.000000	-52.28580	52	0.000000	-58.98640
15	0.000000	0.000000	53	0.000000	0.000000
16	1.000000	0.000000	54	0.000000	-47.44360
17	0.000000	-35.99575	55	0.000000	-26.07440
18	0.000000	-15.49665	56	0.000000	-60.93320
19	0.000000	-39.76365	57	0.000000	-39.45640
20	0.000000	-48.48680	58	0.000000	-23.63350
21	0.000000	0.000000	59	0.000000	-45.56480
22	0.000000	-67.22070	60	0.000000	0.000000
23	0.000000	0.000000	61	0.000000	-53.75570
24	0.000000	-53.20800	62	1.000000	0.000000
25	0.000000	0.000000	63	0.000000	-70.88360
26	0.000000	-48.65420	64	0.000000	-66.36100
27	0.000000	-1.493000	65	0.000000	0.000000
28	0.000000	-55.93770	66	0.000000	-56.76020
29	0.000000	0.000000	67	0.000000	0.000000
30	0.000000	-47.33100	68	0.000000	-13.11450
31	0.000000	-10.08400	69	0.000000	-48.54260
32	0.000000	-49.74780	70	0.000000	-60.50670
33	0.000000	0.000000	71	1.000000	0.000000
34	0.000000	0.000000	72	0.000000	-15.00005
35	0.000000	-51.22810	73	0.000000	-33.16420
36	0.000000	-4.575400	74	0.000000	-25.25250
37	0.000000	-52.05410	75	0.000000	-8.438100
38	0.000000	-58.42250	76	0.000000	0.000000
39	0.000000	0.000000	77	1.000000	0.000000
40	1.000000	0.000000	78	1.000000	0.000000
41	0.000000	0.000000	79	1.000000	0.000000
42	0.000000	-54.30600	80	1.000000	0.000000
43	0.000000	0.000000	81	0.000000	-1.286600
44	0.000000	-48.59520	82	1.000000	0.000000
45	0.000000	0.000000	83	1.000000	0.000000
46	0.000000	0.000000	84	1.000000	0.000000

85	1.000000	0.000000	123	0.000000	0.000000
86	0.000000	0.000000	124	0.000000	-70.88480
87	0.000000	-18.07635	125	0.000000	0.000000
88	0.000000	0.000000	126	1.000000	0.000000
89	0.000000	0.000000	127	1.000000	0.000000
90	0.000000	0.000000	128	0.000000	0.000000
91	1.000000	0.000000	129	1.000000	0.000000
92	1.000000	0.000000	130	0.000000	-61.63800
93	1.000000	0.000000	131	1.000000	0.000000
94	1.000000	0.000000	132	0.000000	0.000000
95	0.000000	-170.8086	133	0.000000	0.000000
96	0.000000	0.000000	134	0.000000	0.000000
97	0.000000	-339.3620	135	1.000000	0.000000
98	1.000000	0.000000	136	1.000000	0.000000
99	1.000000	0.000000	137	1.000000	0.000000
100	1.000000	0.000000	138	1.000000	0.000000
101	1.000000	0.000000	139	0.000000	0.000000
102	1.000000	0.000000	140	1.000000	0.000000
103	1.000000	0.000000	141	0.000000	0.000000
104	0.000000	0.000000	142	0.000000	-340.4755
105	0.000000	-7.897500	143	0.000000	-457.3465
106	0.000000	0.000000	144	1.000000	0.000000
107	0.000000	0.000000	145	0.000000	0.000000
108	0.000000	0.000000	146	0.000000	0.000000
109	0.000000	0.000000	147	0.000000	0.000000
110	0.000000	-50.81000	148	0.500000	0.000000
111	0.000000	0.000000	149	0.000000	0.000000
112	0.000000	0.000000	150	0.000000	-198.7418
113	1.000000	0.000000	151	1.000000	0.000000
114	0.000000	-15.10420	152	0.000000	0.000000
115	0.000000	0.000000	153	1.000000	0.000000
116	1.000000	0.000000	154	0.000000	0.000000
117	0.000000	-57.44600	155	0.000000	0.000000
118	0.000000	-50.90020	156	0.000000	0.000000
119	0.000000	-56.11840	157	0.000000	-47.65890
120	0.000000	-215.3569	158	0.000000	-497.2909
121	0.000000	0.000000	159	0.000000	0.000000
122	0.000000	-6.922600	160	0.000000	0.000000

161	0.000000	0.000000	199	0.000000	-151.4540
162	0.000000	0.000000	200	0.000000	0.000000
163	1.000000	0.000000	201	1.000000	0.000000
164	0.000000	0.000000	202	0.000000	-61.29060
165	0.000000	0.000000	203	1.000000	0.000000
166	0.000000	0.000000	204	1.000000	0.000000
167	0.000000	0.000000	205	1.000000	0.000000
168	1.000000	0.000000	206	1.000000	0.000000
169	1.000000	0.000000	207	1.000000	0.000000
170	1.000000	0.000000	208	1.000000	0.000000
171	1.000000	0.000000	209	0.000000	0.000000
172	1.000000	0.000000	210	0.000000	-12.60080
173	1.000000	0.000000	211	0.000000	0.000000
174	0.000000	0.000000	212	1.000000	0.000000
175	0.000000	0.000000	213	0.000000	0.000000
176	0.000000	0.000000	214	1.000000	0.000000
177	1.000000	0.000000	215	1.000000	0.000000
178	1.000000	0.000000	216	1.000000	0.000000
179	0.000000	-0.5840000	217	0.000000	0.000000
180	0.000000	0.000000	218	0.000000	0.000000
181	0.000000	-13.46210	219	0.000000	0.000000
182	0.000000	0.000000	220	0.000000	0.000000
183	0.000000	-7.623900	221	0.000000	-19.88580
184	0.000000	0.000000	222	1.000000	0.000000
185	0.000000	0.000000	223	1.000000	0.000000
186	1.000000	0.000000	224	0.000000	0.000000
187	0.000000	0.000000	225	0.000000	-255.8960
188	0.000000	0.000000	226	0.000000	0.000000
189	1.000000	0.000000	227	1.000000	0.000000
190	1.000000	0.000000	228	1.000000	0.000000
191	1.000000	0.000000	229	0.000000	-7.436900
192	1.000000	0.000000	230	1.000000	0.000000
193	1.000000	0.000000	231	0.000000	-198.7584
194	1.000000	0.000000	232	0.5000000	0.000000
195	0.000000	0.000000	233	2.000000	0.000000
196	1.000000	0.000000	234	0.000000	-20.16890
197	1.000000	0.000000	235	0.000000	0.000000
198	1.000000	0.000000	236	0.000000	0.000000

237	0.000000	0.000000	275	0.000000	0.000000
238	0.000000	0.000000	276	0.000000	0.000000
239	0.000000	-168.5219	277	0.000000	-103.5310
240	0.000000	0.000000	278	1.000000	0.000000
241	0.000000	-14.21820	279	1.000000	0.000000
242	0.000000	0.000000	280	0.000000	0.000000
243	0.000000	0.000000	281	0.000000	0.000000
244	0.000000	0.000000	282	0.000000	0.000000
245	0.000000	0.000000	283	0.000000	0.000000
246	0.000000	0.000000	284	0.000000	0.000000
247	0.000000	0.000000	285	0.000000	-0.9563000
248	0.000000	-1.842700	286	1.000000	0.000000
249	0.000000	0.000000	287	0.000000	0.000000
250	1.000000	0.000000	288	1.000000	0.000000
251	0.000000	-37.17235	289	0.000000	0.000000
252	0.000000	-6.205500	290	0.000000	0.000000
253	0.000000	-50.00830	291	0.000000	0.000000
254	1.000000	0.000000	292	0.000000	-10.43990
255	0.000000	-19.42465	293	0.000000	0.000000
256	0.000000	0.000000	294	0.000000	-100.7304
257	0.000000	0.000000	295	0.000000	0.000000
258	0.000000	0.000000	296	1.000000	0.000000
259	0.000000	-63.36090	297	0.000000	0.000000
260	0.000000	0.000000	298	0.000000	0.000000
261	0.000000	0.000000	299	1.000000	0.000000
262	0.000000	0.000000	300	1.000000	0.000000
263	0.000000	0.000000	301	0.000000	-77.26290
264	0.000000	0.000000	302	0.000000	-220.9920
265	0.000000	0.000000	303	0.000000	0.000000
266	0.000000	0.000000	304	0.000000	0.000000
267	1.000000	0.000000	305	1.000000	0.000000
268	1.000000	0.000000	306	0.5000000	0.000000
269	0.000000	0.000000	307	1.000000	0.000000
270	0.000000	0.000000	308	0.5000000	0.000000
271	0.000000	0.000000	309	1.000000	0.000000
272	0.000000	0.000000	310	0.000000	0.000000
273	0.000000	0.000000	311	1.000000	0.000000
274	0.000000	-40.60480	312	1.000000	0.000000

313	1.000000	0.000000	318	1.000000	0.000000
314	0.000000	0.000000	319	0.000000	0.000000
315	1.000000	0.000000	320	0.000000	0.000000
316	1.000000	0.000000	321	1.000000	0.000000
317	2.000000	0.000000			



Mapa 7

Global optimal solution found.

Objective value: 8481.165

Infeasibilities: 0.000000

Total solver iterations: 132

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X018019	1.000000	0.000000
X001004	1.000000	0.000000	X018047	1.000000	0.000000
X002003	1.000000	0.000000	X019020	0.000000	9.160000
X002005	1.000000	0.000000	X019049	1.000000	0.000000
X003012	1.000000	0.000000	X020021	1.000000	0.000000
X004005	1.000000	0.000000	X020052	1.000000	0.000000
X004008	0.000000	47.13000	X021022	0.000000	15.34000
X005009	0.000000	29.50000	X021031	1.000000	0.000000
X006007	1.000000	0.000000	X022023	1.000000	0.000000
X006011	1.000000	0.000000	X022024	1.000000	0.000000
X007008	1.000000	0.000000	X023025	1.000000	0.000000
X007010	0.000000	0.000000	X025026	1.000000	0.000000
X008009	1.000000	0.000000	X025027	0.000000	0.000000
X009010	1.000000	0.000000	X026028	1.000000	0.000000
X010011	1.000000	0.000000	X026029	0.000000	34.31000
X011012	1.000000	0.000000	X027028	1.000000	0.000000
X012013	0.000000	11.43000	X027075	1.000000	0.000000
X012099	0.000000	15.79000	X028035	0.000000	0.000000
X013014	1.000000	0.000000	X029030	1.000000	0.000000
X013037	1.000000	0.000000	X029035	1.000000	0.000000
X014015	0.000000	0.000000	X030032	0.000000	0.000000
X014039	1.000000	0.000000	X030034	1.000000	0.000000
X015016	1.000000	0.000000	X031032	1.000000	0.000000
X015040	1.000000	0.000000	X032033	1.000000	0.000000
X016041	0.000000	0.000000	X032052	0.000000	171.7500
X016017	1.000000	0.000000	X033034	1.000000	0.000000
X017018	0.000000	0.000000	X033053	0.000000	58.84000
X017046	1.000000	0.000000	X034035	1.000000	0.000000
			X034072	0.000000	54.33000

X036037	0.000000	21.70000	X061062	0.000000	201.9800
X036096	1.000000	0.000000	X062063	1.000000	0.000000
X036100	1.000000	0.000000	X063064	0.000000	75.25000
X037038	1.000000	0.000000	X064068	1.000000	0.000000
X038091	1.000000	0.000000	X064090	1.000000	0.000000
X038096	0.000000	15.36000	X065066	1.000000	0.000000
X039040	0.000000	5.170000	X065069	0.000000	83.06000
X039091	1.000000	0.000000	X066067	1.000000	0.000000
X040041	1.000000	0.000000	X066070	0.000000	14.96000
X041042	1.000000	0.000000	X067068	1.000000	0.000000
X042043	0.5000000	0.000000	X068089	0.000000	13.76000
X042092	0.000000	254.1400	X069070	1.000000	0.000000
X043044	1.000000	0.000000	X069071	1.000000	0.000000
X043093	0.000000	187.8550	X070089	1.000000	0.000000
X044045	1.000000	0.000000	X071072	1.000000	0.000000
X045046	0.000000	94.59000	X071087	0.000000	52.32000
X045060	1.000000	0.000000	X072073	1.000000	0.000000
X046047	1.000000	0.000000	X073074	1.000000	0.000000
X047048	1.000000	0.000000	X073086	0.000000	28.18000
X047059	0.000000	137.1900	X074075	0.000000	56.63000
X048049	1.000000	0.000000	X074079	1.000000	0.000000
X050051	1.000000	0.000000	X075076	1.000000	0.000000
X050057	1.000000	0.000000	X076077	0.000000	0.000000
X051052	1.000000	0.000000	X076084	1.000000	0.000000
X051056	0.000000	91.54000	X077078	1.000000	0.000000
X052053	1.000000	0.000000	X077082	1.000000	0.000000
X053054	1.000000	0.000000	X078079	1.000000	0.000000
X054055	0.000000	0.000000	X078081	0.000000	0.000000
X054065	1.000000	0.000000	X079080	0.000000	23.89000
X055063	1.000000	0.000000	X080081	1.000000	0.000000
X055067	1.000000	0.000000	X080085	1.000000	0.000000
X056057	1.000000	0.000000	X080086	1.000000	0.000000
X056062	1.000000	0.000000	X081082	1.000000	0.000000
X057058	1.000000	0.000000	X082083	0.000000	0.000000
X058059	1.000000	0.000000	X083084	1.000000	0.000000
X059061	1.000000	0.000000	X083085	1.000000	0.000000
X060061	1.000000	0.000000	X085090	0.000000	0.000000
X060095	0.000000	168.9800	X086087	1.000000	0.000000

X087088	1.000000	0.000000	19	0.000000	-64.76000
X088089	1.000000	0.000000	20	0.000000	-47.75000
X088090	1.000000	0.000000	21	0.000000	0.000000
X091092	1.000000	0.000000	22	0.000000	-35.16000
X092093	1.000000	0.000000	23	0.000000	-14.75000
X093094	1.000000	0.000000	24	0.000000	0.000000
X093097	0.000000	26.16000	25	0.000000	-25.70000
X094095	1.000000	0.000000	26	0.000000	0.000000
X094098	0.000000	82.28000	27	0.000000	-51.41000
X095103	1.000000	0.000000	28	0.000000	0.000000
X096097	1.000000	0.000000	29	0.000000	-51.62000
X097098	1.000000	0.000000	30	1.000000	0.000000
X098101	1.000000	0.000000	31	0.000000	-47.90000
X099100	1.000000	0.000000	32	0.000000	0.000000
X099102	1.000000	0.000000	33	0.000000	-11.48000
X100101	0.000000	71.51000	34	0.000000	-56.71000
X101102	1.000000	0.000000	35	0.000000	-29.74000
X102103	1.000000	0.000000	36	0.000000	-79.31000
			37	0.000000	-19.64000
			38	0.000000	-30.38000
			39	0.000000	-46.52000
			40	0.000000	-53.32000
			41	0.000000	-30.11000
			42	1.000000	0.000000
			43	0.000000	-51.74000
			44	1.000000	0.000000
			45	0.000000	-0.800E-01
			46	0.000000	-51.45000
			47	0.000000	-57.25000
			48	0.000000	0.000000
			49	1.000000	0.000000
			50	0.000000	-51.78000
			51	0.000000	-5.280000
			52	0.000000	-5.220000
			53	0.000000	-55.61000
			54	0.000000	0.000000
			55	0.000000	-16.71000
			56	0.000000	-4.660000
Row	Slack or Surplus	Dual Price			
1	8481.165	-1.000000			
2	1.000000	0.000000			
3	0.000000	-54.46000			
4	0.000000	-86.88000			
5	0.000000	-18.08000			
6	0.000000	-56.96000			
7	0.000000	0.000000			
8	0.000000	-51.04000			
9	1.000000	0.000000			
10	0.000000	-54.93000			
11	0.000000	0.000000			
12	0.000000	-53.86000			
13	0.000000	0.000000			
14	0.000000	-39.83000			
15	0.000000	-14.32000			
16	0.000000	0.000000			
17	0.000000	-42.52000			
18	0.000000	-60.57000			

57	0.000000	-50.36000	95	0.000000	-50.23000
58	1.000000	0.000000	96	1.000000	0.000000
59	0.000000	-42.90000	97	1.000000	0.000000
60	0.000000	0.000000	98	0.000000	-37.44000
61	0.000000	-49.29000	99	1.000000	0.000000
62	0.000000	-18.15000	100	0.000000	0.000000
63	0.000000	0.000000	101	0.000000	0.000000
64	0.000000	-30.38000	102	0.000000	-64.38000
65	0.000000	-35.64000	103	1.000000	0.000000
66	0.000000	-50.25000	104	0.000000	0.000000
67	0.000000	0.000000	105	0.000000	0.000000
68	0.000000	-52.73000	106	0.000000	0.000000
69	0.000000	0.000000	107	0.000000	-123.8800
70	0.000000	-16.38000	108	0.000000	-3.890000
71	1.000000	0.000000	109	0.000000	0.000000
72	0.000000	-19.84000	110	0.000000	0.000000
73	0.000000	-29.63000	111	0.000000	-118.1100
74	0.000000	-32.49000	112	0.000000	0.000000
75	0.000000	-60.18000	113	0.000000	-64.86000
76	0.000000	0.000000	114	0.000000	0.000000
77	0.000000	-25.15000	115	0.000000	0.000000
78	1.000000	0.000000	116	1.000000	0.000000
79	0.000000	-16.00000	117	1.000000	0.000000
80	0.000000	-58.22000	118	0.000000	-24.94000
81	1.000000	0.000000	119	1.000000	0.000000
82	0.000000	0.000000	120	0.000000	-12.84000
83	0.000000	-21.52000	121	0.000000	-10.52000
84	0.000000	0.000000	122	0.000000	0.000000
85	0.000000	-57.60000	123	1.000000	0.000000
86	0.000000	-52.32000	124	1.000000	0.000000
87	0.000000	-50.19000	125	1.000000	0.000000
88	0.000000	0.000000	126	0.000000	0.000000
89	0.000000	0.000000	127	0.000000	0.000000
90	0.000000	-39.38000	128	0.000000	-36.04000
91	0.000000	0.000000	129	1.000000	0.000000
92	1.000000	0.000000	130	0.000000	-38.72000
93	0.000000	-173.7700	131	0.000000	0.000000
94	1.000000	0.000000	132	0.000000	0.000000

133	0.000000	0.000000	171	2.000000	0.000000
134	0.5000000	0.000000	172	0.000000	-44.10000
135	0.000000	0.000000	173	1.000000	0.000000
136	0.000000	0.000000	174	0.000000	0.000000
137	0.000000	0.000000	175	0.000000	-167.2400
138	1.000000	0.000000	176	1.000000	0.000000
139	0.000000	-51.79000	177	0.000000	-59.11000
140	0.000000	0.000000	178	0.000000	-21.00000
141	0.000000	0.000000	179	1.000000	0.000000
142	1.000000	0.000000	180	0.000000	0.000000
143	1.000000	0.000000	181	0.000000	-5.270000
144	0.000000	-54.30000	182	1.000000	0.000000
145	0.000000	0.000000	183	0.000000	-29.75000
146	0.000000	0.000000	184	1.000000	0.000000
147	0.000000	-51.49000	185	1.000000	0.000000
148	1.000000	0.000000	186	0.000000	0.000000
149	0.000000	-177.2000	187	0.000000	0.000000
150	0.000000	0.000000	188	0.000000	-86.80000
151	1.000000	0.000000	189	0.000000	0.000000
152	1.000000	0.000000	190	0.000000	0.000000
153	0.000000	-4.750000	191	1.000000	0.000000
154	1.000000	0.000000	192	0.000000	-48.60000
155	0.000000	0.000000	193	1.000000	0.000000
156	1.000000	0.000000	194	0.000000	-164.5500
157	1.000000	0.000000	195	0.000000	0.000000
158	1.000000	0.000000	196	1.000000	0.000000
159	1.000000	0.000000	197	0.000000	-506.9900
160	0.000000	0.000000	198	0.000000	0.000000
161	0.000000	0.000000	199	0.000000	-23.26000
162	1.000000	0.000000	200	0.000000	-154.8900
163	0.000000	0.000000	201	0.000000	0.000000
164	1.000000	0.000000	202	1.000000	0.000000
165	0.000000	0.000000	203	1.000000	0.000000
166	0.000000	0.000000	204	1.000000	0.000000
167	0.000000	0.000000	205	1.000000	0.000000
168	0.000000	0.000000	206	0.000000	0.000000
169	1.000000	0.000000	207	1.000000	0.000000
170	1.000000	0.000000	208	0.000000	0.000000

209	1.000000	0.000000	247	0.000000	0.000000
210	0.000000	0.000000	248	1.000000	0.000000
211	0.000000	0.000000	249	1.000000	0.000000
212	1.000000	0.000000	250	1.000000	0.000000
213	0.000000	0.000000	251	0.000000	0.000000
214	1.000000	0.000000	252	1.000000	0.000000
215	0.000000	0.000000	253	0.000000	-44.14000
216	1.000000	0.000000	254	0.000000	0.000000
217	0.000000	-115.0800	255	0.000000	0.000000
218	0.000000	0.000000	256	0.000000	0.000000
219	0.000000	-17.65000	257	1.000000	0.000000
220	1.000000	0.000000	258	0.000000	0.000000
221	0.000000	0.000000	259	0.000000	-4.580000
222	1.000000	0.000000	260	1.000000	0.000000
223	0.000000	0.000000	261	0.000000	0.000000
224	0.000000	-47.44000	262	1.000000	0.000000
225	0.000000	0.000000	263	1.000000	0.000000
226	0.000000	-13.93000	264	0.000000	0.000000
227	1.000000	0.000000	265	1.000000	0.000000
228	1.000000	0.000000	266	0.000000	0.000000
229	1.000000	0.000000	267	0.000000	0.000000
230	0.000000	0.000000	268	0.000000	0.000000
231	0.000000	0.000000	269	0.000000	0.000000
232	0.000000	0.000000	270	1.000000	0.000000
233	0.000000	-43.32000	271	0.000000	0.000000
234	1.000000	0.000000	272	0.000000	-33.36000
235	0.5000000	0.000000	273	1.000000	0.000000
236	0.5000000	0.000000	274	1.000000	0.000000
237	0.000000	0.000000	275	0.000000	0.000000
238	0.000000	0.000000	276	1.000000	0.000000
239	0.000000	-26.49000	277	0.000000	-35.30000
240	1.000000	0.000000	278	0.000000	-10.82000
241	0.000000	-99.61000	279	1.000000	0.000000
242	0.000000	0.000000	280	1.000000	0.000000
243	0.000000	-190.0000	281	1.000000	0.000000
244	0.000000	0.000000	282	1.000000	0.000000
245	2.000000	0.000000	283	0.000000	0.000000
246	1.000000	0.000000	284	1.000000	0.000000

285	1.000000	0.000000	323	0.000000	0.000000
286	0.000000	0.000000	324	1.000000	0.000000
287	0.000000	0.000000	325	0.000000	-25.71000
288	1.000000	0.000000	326	0.000000	-64.66000
289	0.000000	0.000000	327	1.000000	0.000000
290	1.000000	0.000000	328	0.000000	0.000000
291	1.000000	0.000000	329	1.000000	0.000000
292	1.000000	0.000000	330	1.000000	0.000000
293	0.000000	0.000000	331	0.000000	0.000000
294	0.000000	-43.00000	332	1.000000	0.000000
295	1.000000	0.000000	333	0.000000	-13.76500
296	0.000000	-56.87000	334	1.000000	0.000000
297	1.000000	0.000000	335	1.000000	0.000000
298	0.000000	0.000000	336	1.000000	0.000000
299	0.000000	0.000000	337	0.000000	-2.450000
300	0.000000	0.000000	338	1.000000	0.000000
301	0.000000	0.000000	339	0.000000	0.000000
302	0.000000	-56.95000	340	1.000000	0.000000
303	0.000000	0.000000	341	0.000000	0.000000
304	1.000000	0.000000	342	0.000000	0.000000
305	1.000000	0.000000	343	1.000000	0.000000
306	0.000000	0.000000	344	0.000000	0.000000
307	1.000000	0.000000	345	0.000000	0.000000
308	0.000000	0.000000	346	0.000000	0.000000
309	1.000000	0.000000	347	1.000000	0.000000
310	1.000000	0.000000	348	0.000000	-0.700E-01
311	0.000000	-43.66000	349	0.000000	-24.43000
312	1.000000	0.000000	350	0.000000	0.000000
313	0.000000	0.000000	351	0.000000	0.000000
314	1.000000	0.000000	352	1.000000	0.000000
315	0.000000	-16.77000	353	0.000000	0.000000
316	0.000000	0.000000	354	0.000000	-32.67000
317	0.000000	0.000000	355	0.000000	0.000000
318	0.000000	0.000000	356	0.000000	0.000000
319	0.000000	0.000000	357	0.000000	0.000000
320	0.000000	0.000000	358	0.000000	0.000000
321	1.000000	0.000000	359	1.000000	0.000000
322	0.000000	0.000000	360	1.000000	0.000000

361	1.000000	0.000000	379	0.000000	0.000000
362	0.000000	-0.2900000	380	1.000000	0.000000
363	0.000000	0.000000	381	0.000000	0.000000
364	0.000000	0.000000	382	0.000000	0.000000
365	1.000000	0.000000	383	0.000000	-237.6400
366	0.000000	-11.29000	384	0.000000	0.000000
367	0.000000	0.000000	385	1.000000	0.000000
368	0.000000	0.000000	386	1.000000	0.000000
369	0.000000	0.000000	387	1.000000	0.000000
370	0.000000	0.000000	388	1.000000	0.000000
371	0.000000	0.000000	389	2.000000	0.000000
372	1.000000	0.000000	390	0.5000000	0.000000
373	0.000000	-7.370000	391	1.000000	0.000000
374	1.000000	0.000000	392	2.000000	0.000000
375	1.000000	0.000000	393	1.000000	0.000000
376	0.000000	-0.000000	394	1.000000	0.000000
377	0.000000	0.000000	395	1.000000	0.000000
378	0.000000	-74.96000			

Mapa 8

Global optimal solution found.

Objective value: 11485.02

Infeasibilities: 0.000000

Total solver iterations: 193

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X019045	1.000000	0.000000
X001003	1.000000	0.000000	X020046	1.000000	0.000000
X002016	1.000000	0.000000	X021022	1.000000	0.000000
X002011	0.000000	0.000000	X021026	1.000000	0.000000
X003004	1.000000	0.000000	X022023	1.000000	0.000000
X003010	1.000000	0.000000	X023088	0.000000	0.000000
X004009	1.000000	0.000000	X023092	1.000000	0.000000
X004005	0.000000	0.000000	X024025	1.000000	0.000000
X005006	1.000000	0.000000	X025031	1.000000	0.000000
X005007	1.000000	0.000000	X025035	0.000000	50.80000
X006008	0.000000	0.000000	X026039	1.000000	0.000000
X006014	1.000000	0.000000	X027028	1.000000	0.000000
X007008	1.000000	0.000000	X028029	1.000000	0.000000
X008138	1.000000	0.000000	X028030	1.000000	0.000000
X009013	1.000000	0.000000	X029045	0.000000	29.65000
X009014	0.000000	94.24000	X029049	1.000000	0.000000
X010013	0.000000	26.02000	X030031	0.000000	8.150000
X010011	1.000000	0.000000	X031032	1.000000	0.000000
X011012	1.000000	0.000000	X032035	1.000000	0.000000
X012013	1.000000	0.000000	X033034	1.000000	0.000000
X012015	0.000000	0.000000	X033049	1.000000	0.000000
X014015	1.000000	0.000000	X034050	0.5000000	0.000000
X015016	1.000000	0.000000	X034068	0.5000000	0.000000
X016017	0.000000	0.000000	X035044	1.000000	0.000000
X017018	1.000000	0.000000	X035036	0.000000	0.000000
X017024	1.000000	0.000000	X036037	1.000000	0.000000
X018030	1.000000	0.000000	X036043	1.000000	0.000000
X019020	1.000000	0.000000	X037038	1.000000	0.000000
			X037042	0.000000	278.7800

X038039	1.000000	0.000000	X062065	1.000000	0.000000
X038041	0.000000	0.000000	X065066	1.000000	0.000000
X039040	0.000000	35.28000	X066067	0.000000	0.000000
X040041	1.000000	0.000000	X066071	0.000000	0.000000
X040081	1.000000	0.000000	X067133	1.000000	0.000000
X041080	0.000000	110.8000	X067072	1.000000	0.000000
X041042	1.000000	0.000000	X068069	1.000000	0.000000
X042078	0.000000	0.000000	X069074	1.000000	0.000000
X042043	1.000000	0.000000	X070071	1.000000	0.000000
X043044	0.000000	0.000000	X071072	1.000000	0.000000
X043078	0.000000	0.000000	X072073	0.000000	40.03000
X044076	1.000000	0.000000	X073074	1.000000	0.000000
X045046	1.000000	0.000000	X074076	1.000000	0.000000
X046047	0.000000	19.75000	X076079	0.000000	2.400000
X047048	1.000000	0.000000	X077078	1.000000	0.000000
X047052	1.000000	0.000000	X078079	1.000000	0.000000
X048051	1.000000	0.000000	X078080	0.000000	0.000000
X048049	0.000000	0.000000	X079082	1.000000	0.000000
X050068	0.5000000	0.000000	X080081	1.000000	0.000000
X050133	1.000000	0.000000	X080082	1.000000	0.000000
X051052	1.000000	0.000000	X081085	1.000000	0.000000
X051054	0.000000	0.000000	X081083	1.000000	0.000000
X052053	0.000000	0.000000	X082083	0.000000	51.37000
X053055	1.000000	0.000000	X083084	1.000000	0.000000
X053058	1.000000	0.000000	X084101	1.000000	0.000000
X054055	1.000000	0.000000	X084103	1.000000	0.000000
X054066	1.000000	0.000000	X085086	1.000000	0.000000
X055056	0.000000	0.000000	X085101	0.000000	16.25000
X055065	0.000000	0.000000	X086087	1.000000	0.000000
X056057	1.000000	0.000000	X086100	0.000000	72.69000
X056061	1.000000	0.000000	X087088	1.000000	0.000000
X057059	0.000000	0.000000	X087095	0.000000	0.000000
X057060	1.000000	0.000000	X088089	1.000000	0.000000
X058059	1.000000	0.000000	X089090	1.000000	0.000000
X059073	1.000000	0.000000	X089095	0.000000	35.83000
X060061	0.000000	132.1000	X090096	1.000000	0.000000
X060070	1.000000	0.000000	X090091	0.000000	1.730000
X061062	1.000000	0.000000	X091093	1.000000	0.000000

X091097	1.000000	0.000000	X116117	0.000000	0.000000
X092094	1.000000	0.000000	X116118	1.000000	0.000000
X092093	1.000000	0.000000	X117135	1.000000	0.000000
X093098	0.000000	85.92000	X117119	0.000000	0.000000
X094111	1.000000	0.000000	X118119	1.000000	0.000000
X095100	1.000000	0.000000	X119120	1.000000	0.000000
X095096	1.000000	0.000000	X120121	1.000000	0.000000
X096097	0.000000	0.000000	X120124	0.000000	66.60000
X097098	1.000000	0.000000	X121122	1.000000	0.000000
X098099	1.000000	0.000000	X121135	0.000000	0.000000
X099100	1.000000	0.000000	X122123	0.000000	0.000000
X099102	0.000000	0.000000	X123126	1.000000	0.000000
X100101	0.000000	55.88000	X123124	1.000000	0.000000
X101102	1.000000	0.000000	X124125	1.000000	0.000000
X102103	1.000000	0.000000	X125129	0.000000	0.000000
X102105	0.000000	36.95000	X125130	1.000000	0.000000
X103104	0.000000	2.550000	X126127	0.000000	0.000000
X104105	1.000000	0.000000	X126129	1.000000	0.000000
X104132	1.000000	0.000000	X127128	1.000000	0.000000
X105106	1.000000	0.000000	X127136	1.000000	0.000000
X105111	0.000000	0.000000	X128129	1.000000	0.000000
X106134	1.000000	0.000000	X128131	0.000000	0.000000
X106131	0.000000	0.000000	X130132	1.000000	0.000000
X107134	1.000000	0.000000	X131137	1.000000	0.000000
X107109	1.000000	0.000000	X131132	0.000000	56.52000
X108131	1.000000	0.000000			
X108113	1.000000	0.000000	Row	Slack or Surplus	Dual Price
X109110	1.000000	0.000000	1	11485.02	-1.000000
X109113	0.000000	0.000000	2	0.000000	-35.64000
X110112	0.000000	0.000000	3	1.000000	0.000000
X110117	1.000000	0.000000	4	0.000000	-90.93000
X111112	1.000000	0.000000	5	0.000000	-17.95000
X112116	1.000000	0.000000	6	0.000000	-29.37000
X113114	1.000000	0.000000	7	0.000000	-34.45000
X114115	0.000000	0.000000	8	0.000000	-9.440000
X114135	1.000000	0.000000	9	0.000000	0.000000
X115131	1.000000	0.000000	10	0.000000	-60.08000
X115122	1.000000	0.000000	11	0.000000	-47.63000

12	0.000000	-31.44000	50	0.000000	-4.040000
13	0.000000	-26.17000	51	0.000000	-6.540000
14	0.000000	-24.04000	52	0.000000	-51.88000
15	0.000000	0.000000	53	0.000000	-5.560000
16	0.000000	0.000000	54	0.000000	-13.34000
17	0.000000	-38.68000	55	0.000000	0.000000
18	0.000000	-40.81000	56	0.000000	-48.79000
19	0.000000	-70.30000	57	0.000000	-50.81000
20	1.000000	0.000000	58	1.000000	0.000000
21	0.000000	-69.05000	59	0.000000	-50.17000
22	0.000000	-42.96000	60	0.000000	-50.79000
23	0.000000	-5.750000	61	0.000000	-9.110000
24	0.000000	-68.75000	62	0.000000	-31.77000
25	0.000000	-49.57000	63	0.000000	-24.03000
26	0.000000	-9.270000	64	2.000000	0.000000
27	0.000000	-52.17000	65	0.000000	-20.74000
28	0.000000	-35.13000	66	0.000000	-58.42000
29	0.000000	-44.95000	67	1.000000	0.000000
30	0.000000	-63.78000	68	0.000000	-65.18000
31	0.000000	0.000000	69	0.000000	0.000000
32	0.000000	-71.07000	70	0.000000	-23.54000
33	0.000000	-43.46000	71	0.000000	-4.340000
34	0.000000	0.000000	72	0.000000	-48.17000
35	0.000000	-57.05000	73	0.000000	0.000000
36	0.000000	0.000000	74	0.000000	0.000000
37	0.000000	-3.810000	75	1.000000	0.000000
38	0.000000	-43.47000	76	0.000000	-42.90000
39	0.000000	-3.850000	77	0.000000	-32.98000
40	0.000000	-49.58000	78	0.000000	-0.700E-01
41	0.000000	0.000000	79	0.000000	-112.9900
42	0.000000	-53.67000	80	0.000000	0.000000
43	0.000000	-6.230000	81	0.000000	-37.75000
44	0.000000	-8.020000	82	0.000000	-5.350000
45	0.000000	-43.23000	83	0.000000	-47.99000
46	0.000000	-60.89000	84	0.000000	-14.93000
47	0.000000	-9.690000	85	0.000000	-40.81000
48	0.000000	-5.660000	86	0.000000	-102.4700
49	0.000000	-58.56000	87	0.000000	0.000000

88	0.000000	-73.19000	126	1.000000	0.000000
89	0.000000	-2.230000	127	0.000000	0.000000
90	0.000000	-55.54000	128	0.000000	0.000000
91	0.000000	-48.17000	129	0.000000	-8.910000
92	0.000000	0.000000	130	1.000000	0.000000
93	0.000000	-131.8900	131	0.000000	0.000000
94	0.000000	-33.49000	132	0.000000	-54.35000
95	0.000000	-19.90000	133	0.000000	-95.35000
96	0.000000	-53.29000	134	0.000000	0.000000
97	0.000000	-0.7400000	135	0.000000	0.000000
98	0.000000	0.000000	136	0.000000	-111.6000
99	0.000000	-64.29000	137	0.000000	-90.72000
100	0.000000	-91.68000	138	0.000000	-107.2100
101	0.000000	-85.74000	139	1.000000	0.000000
102	0.000000	-53.34000	140	0.000000	-51.73000
103	0.000000	-44.09000	141	1.000000	0.000000
104	0.000000	0.000000	142	0.000000	-18.79000
105	0.000000	0.000000	143	1.000000	0.000000
106	0.000000	-48.17000	144	0.000000	0.000000
107	0.000000	-17.98000	145	0.000000	-77.07000
108	0.000000	-42.77000	146	0.000000	-169.6600
109	1.000000	0.000000	147	0.5000000	0.000000
110	0.000000	0.000000	148	1.000000	0.000000
111	0.000000	-25.12000	149	0.000000	0.000000
112	0.000000	0.000000	150	1.000000	0.000000
113	0.000000	-36.28000	151	1.000000	0.000000
114	0.000000	-23.03000	152	1.000000	0.000000
115	0.000000	-25.12000	153	0.000000	-6.360000
116	1.000000	0.000000	154	1.000000	0.000000
117	1.000000	0.000000	155	1.000000	0.000000
118	1.000000	0.000000	156	0.000000	-9.520000
119	0.000000	0.000000	157	0.000000	0.000000
120	0.000000	0.000000	158	0.000000	0.000000
121	0.000000	-47.91000	159	1.000000	0.000000
122	0.000000	0.000000	160	0.000000	-8.460000
123	1.000000	0.000000	161	1.000000	0.000000
124	0.000000	-50.44000	162	1.000000	0.000000
125	0.000000	0.000000	163	0.000000	0.000000

164	1.000000	0.000000	202	1.000000	0.000000
165	1.000000	0.000000	203	0.000000	-168.2700
166	0.000000	0.000000	204	1.000000	0.000000
167	0.000000	0.000000	205	1.000000	0.000000
168	0.000000	0.000000	206	0.000000	0.000000
169	0.000000	0.000000	207	0.000000	-25.86000
170	0.000000	-42.36000	208	1.000000	0.000000
171	0.000000	-107.7200	209	1.000000	0.000000
172	0.000000	0.000000	210	0.000000	0.000000
173	0.000000	0.000000	211	1.000000	0.000000
174	0.000000	0.000000	212	1.000000	0.000000
175	0.000000	-181.1800	213	0.000000	-12.91000
176	1.000000	0.000000	214	1.000000	0.000000
177	0.000000	0.000000	215	1.000000	0.000000
178	0.000000	-13.29000	216	0.000000	-219.5700
179	0.000000	0.000000	217	0.000000	-85.38000
180	0.000000	-102.0900	218	1.000000	0.000000
181	0.000000	0.000000	219	0.000000	-97.32000
182	0.000000	0.000000	220	0.000000	0.000000
183	1.000000	0.000000	221	0.000000	0.000000
184	0.000000	0.000000	222	0.000000	0.000000
185	1.000000	0.000000	223	0.000000	0.000000
186	1.000000	0.000000	224	0.000000	0.000000
187	1.000000	0.000000	225	0.000000	0.000000
188	0.000000	0.000000	226	0.000000	0.000000
189	1.000000	0.000000	227	0.000000	-34.57000
190	2.000000	0.000000	228	0.000000	-56.90000
191	1.000000	0.000000	229	1.000000	0.000000
192	0.000000	-45.03000	230	1.000000	0.000000
193	1.000000	0.000000	231	1.000000	0.000000
194	1.000000	0.000000	232	0.000000	0.000000
195	1.000000	0.000000	233	0.000000	-100.2000
196	1.000000	0.000000	234	0.000000	0.000000
197	0.000000	-16.58000	235	0.000000	0.000000
198	1.000000	0.000000	236	0.000000	-9.350000
199	1.000000	0.000000	237	1.000000	0.000000
200	0.000000	0.000000	238	0.000000	-34.34000
201	1.000000	0.000000	239	0.000000	-70.01000

240	1.000000	0.000000	278	0.000000	0.000000
241	1.000000	0.000000	279	1.000000	0.000000
242	0.000000	-3.710000	280	0.000000	0.000000
243	0.000000	-106.3400	281	0.000000	0.000000
244	1.000000	0.000000	282	0.000000	-82.63000
245	0.000000	-125.4100	283	1.000000	0.000000
246	0.000000	0.000000	284	0.000000	0.000000
247	1.000000	0.000000	285	0.000000	-43.69000
248	0.000000	0.000000	286	0.000000	0.000000
249	1.000000	0.000000	287	0.000000	-6.730000
250	0.000000	0.000000	288	0.000000	0.000000
251	0.000000	-55.48000	289	0.000000	0.000000
252	1.000000	0.000000	290	1.000000	0.000000
253	0.000000	0.000000	291	0.000000	0.000000
254	0.000000	0.000000	292	0.000000	0.000000
255	1.000000	0.000000	293	0.5000000	0.000000
256	0.000000	0.000000	294	0.000000	-39.01000
257	0.000000	0.000000	295	0.000000	0.000000
258	0.000000	0.000000	296	1.000000	0.000000
259	1.000000	0.000000	297	1.000000	0.000000
260	0.000000	-101.8000	298	0.000000	-3.930000
261	1.000000	0.000000	299	1.000000	0.000000
262	0.000000	-9.290000	300	0.000000	0.000000
263	0.000000	-5.870000	301	0.000000	-55.10000
264	0.000000	0.000000	302	1.000000	0.000000
265	0.000000	0.000000	303	0.000000	0.000000
266	0.000000	-83.68000	304	0.000000	0.000000
267	0.000000	0.000000	305	0.000000	-53.86000
268	0.000000	0.000000	306	1.000000	0.000000
269	0.000000	0.000000	307	0.000000	0.000000
270	0.000000	0.000000	308	1.000000	0.000000
271	1.000000	0.000000	309	0.5000000	0.000000
272	0.000000	0.000000	310	0.000000	-58.61000
273	0.000000	0.000000	311	0.000000	-50.17000
274	0.000000	0.000000	312	1.000000	0.000000
275	0.000000	-58.83000	313	0.000000	0.000000
276	0.000000	-76.83000	314	0.000000	-68.34000
277	0.000000	0.000000	315	1.000000	0.000000

316	0.000000	0.000000	354	1.000000	0.000000
317	1.000000	0.000000	355	0.000000	-27.09000
318	1.000000	0.000000	356	1.000000	0.000000
319	1.000000	0.000000	357	0.000000	0.000000
320	2.000000	0.000000	358	1.000000	0.000000
321	0.000000	0.000000	359	0.000000	-76.45000
322	0.000000	0.000000	360	0.000000	0.000000
323	1.000000	0.000000	361	0.000000	0.000000
324	0.000000	0.000000	362	1.000000	0.000000
325	0.000000	-47.41000	363	1.000000	0.000000
326	0.000000	0.000000	364	0.000000	-51.50000
327	1.000000	0.000000	365	0.000000	-74.42000
328	0.000000	0.000000	366	1.000000	0.000000
329	0.000000	-51.66000	367	0.000000	0.000000
330	1.000000	0.000000	368	1.000000	0.000000
331	1.000000	0.000000	369	0.000000	-106.4200
332	0.000000	-96.45000	370	0.000000	-32.35000
333	0.000000	0.000000	371	0.000000	0.000000
334	1.000000	0.000000	372	0.000000	-24.24000
335	0.000000	0.000000	373	0.000000	0.000000
336	0.000000	0.000000	374	0.000000	-28.49000
337	1.000000	0.000000	375	0.000000	0.000000
338	0.000000	-98.07000	376	1.000000	0.000000
339	0.000000	0.000000	377	0.000000	-3.120000
340	1.000000	0.000000	378	0.000000	0.000000
341	0.000000	0.000000	379	1.000000	0.000000
342	0.000000	0.000000	380	0.000000	0.000000
343	1.000000	0.000000	381	0.000000	0.000000
344	0.000000	0.000000	382	1.000000	0.000000
345	0.000000	-106.3400	383	0.000000	-41.22000
346	0.000000	-53.85000	384	0.000000	0.000000
347	0.000000	-62.51000	385	1.000000	0.000000
348	0.000000	0.000000	386	1.000000	0.000000
349	0.000000	0.000000	387	0.000000	0.000000
350	0.000000	-10.39000	388	0.000000	-0.9400000
351	1.000000	0.000000	389	0.000000	0.000000
352	0.000000	0.000000	390	1.000000	0.000000
353	0.000000	0.000000	391	0.000000	0.000000

392	1.000000	0.000000	430	1.000000	0.000000
393	1.000000	0.000000	431	0.000000	-8.950000
394	0.000000	0.000000	432	0.000000	0.000000
395	1.000000	0.000000	433	0.000000	0.000000
396	0.5000000	0.000000	434	0.000000	-5.400000
397	0.000000	0.000000	435	2.000000	0.000000
398	0.000000	0.000000	436	0.000000	0.000000
399	0.000000	-106.4600	437	1.000000	0.000000
400	0.000000	0.000000	438	1.000000	0.000000
401	0.000000	0.000000	439	0.000000	-33.32000
402	0.000000	0.000000	440	0.000000	0.000000
403	1.000000	0.000000	441	0.000000	0.000000
404	1.000000	0.000000	442	0.000000	0.000000
405	1.000000	0.000000	443	0.000000	0.000000
406	1.000000	0.000000	444	0.000000	0.000000
407	1.000000	0.000000	445	0.000000	-7.950000
408	0.000000	-45.13000	446	1.000000	0.000000
409	0.000000	0.000000	447	0.000000	0.000000
410	0.000000	0.000000	448	0.000000	0.000000
411	0.000000	0.000000	449	0.000000	0.000000
412	0.5000000	0.000000	450	1.000000	0.000000
413	0.000000	0.000000	451	0.000000	0.000000
414	0.000000	0.000000	452	0.000000	0.000000
415	0.000000	0.000000	453	0.000000	0.000000
416	0.000000	0.000000	454	1.000000	0.000000
417	1.000000	0.000000	455	0.000000	0.000000
418	0.000000	0.000000	456	0.000000	0.000000
419	1.000000	0.000000	457	0.000000	0.000000
420	0.000000	0.000000	458	0.000000	-2.600000
421	1.000000	0.000000	459	0.000000	0.000000
422	1.000000	0.000000	460	0.000000	0.000000
423	0.000000	0.000000	461	1.000000	0.000000
424	1.000000	0.000000	462	1.000000	0.000000
425	0.000000	0.000000	463	0.000000	0.000000
426	0.5000000	0.000000	464	1.000000	0.000000
427	0.000000	0.000000	465	1.000000	0.000000
428	0.000000	0.000000	466	0.000000	0.000000
429	1.000000	0.000000	467	1.000000	0.000000

468	0.000000	0.000000	484	0.000000	0.000000
469	0.000000	0.000000	485	0.000000	0.000000
470	0.000000	0.000000	486	1.000000	0.000000
471	0.000000	0.000000	487	1.000000	0.000000
472	0.000000	-7.300000	488	0.000000	-9.900000
473	0.000000	-5.240000	489	1.000000	0.000000
474	0.000000	0.000000	490	0.000000	0.000000
475	1.000000	0.000000	491	0.000000	-20.06000
476	1.000000	0.000000	492	2.000000	0.000000
477	0.000000	0.000000	493	0.000000	0.000000
478	0.000000	0.000000	494	1.000000	0.000000
479	0.000000	0.000000	495	0.000000	-28.87000
480	0.000000	0.000000	496	1.000000	0.000000
481	0.000000	0.000000	497	1.000000	0.000000
482	0.000000	0.000000	498	1.000000	0.000000
483	1.000000	0.000000	499	1.000000	0.000000

Mapa 9

Global optimal solution found.

Objective value: 10300.95

Infeasibilities: 0.000000

Total solver iterations: 185

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X016017	1.000000	0.000000
X001136	1.000000	0.000000	X017052	0.000000	25.28500
X002003	1.000000	0.000000	X017018	1.000000	0.000000
X002098	0.000000	61.69000	X018019	1.000000	0.000000
X003096	1.000000	0.000000	X018032	0.000000	101.8400
X003004	0.000000	0.000000	X019020	1.000000	0.000000
X004094	1.000000	0.000000	X020029	1.000000	0.000000
X004005	1.000000	0.000000	X020021	1.000000	0.000000
X005093	1.000000	0.000000	X021022	1.000000	0.000000
X006092	1.000000	0.000000	X021029	0.000000	8.950000
X006007	1.000000	0.000000	X022023	0.000000	102.4100
X007090	1.000000	0.000000	X022138	1.000000	0.000000
X007008	0.000000	0.000000	X023024	1.000000	0.000000
X008009	1.000000	0.000000	X023025	1.000000	0.000000
X008089	1.000000	0.000000	X024034	1.000000	0.000000
X009010	1.000000	0.000000	X025026	1.000000	0.000000
X010011	1.000000	0.000000	X025138	0.000000	66.96000
X011012	1.000000	0.000000	X026033	1.000000	0.000000
X012071	1.000000	0.000000	X026027	0.000000	121.0100
X012013	0.000000	0.000000	X027028	1.000000	0.000000
X013014	1.000000	0.000000	X027138	1.000000	0.000000
X013070	1.000000	0.000000	X028029	1.000000	0.000000
X014056	0.000000	24.95000	X028033	0.000000	128.1200
X014015	1.000000	0.000000	X030031	1.000000	0.000000
X015054	0.000000	87.63000	X030051	0.5000000	0.000000
X015016	1.000000	0.000000	X030052	0.5000000	0.000000
X016053	0.000000	83.92000	X031049	0.000000	0.000000
			X031050	1.000000	0.000000

X032139	1.000000	0.000000	X057069	1.000000	0.000000
X032044	1.000000	0.000000	X058059	0.000000	0.000000
X033034	1.000000	0.000000	X059060	1.000000	0.000000
X034035	1.000000	0.000000	X060141	1.000000	0.000000
X035036	1.000000	0.000000	X061062	1.000000	0.000000
X036037	1.000000	0.000000	X062063	1.000000	0.000000
X036040	0.000000	127.5400	X063064	1.000000	0.000000
X037038	1.000000	0.000000	X063141	0.000000	0.000000
X037041	0.000000	302.9500	X064065	1.000000	0.000000
X038039	0.000000	148.5100	X064111	0.000000	96.31000
X038139	1.000000	0.000000	X065066	1.000000	0.000000
X039043	1.000000	0.000000	X065110	0.000000	59.76000
X039042	1.000000	0.000000	X066067	0.000000	24.17000
X040041	1.000000	0.000000	X066075	0.000000	137.9600
X040117	1.000000	0.000000	X066109	1.000000	0.000000
X041042	1.000000	0.000000	X067141	1.000000	0.000000
X042061	0.000000	0.000000	X067068	1.000000	0.000000
X043047	1.000000	0.000000	X068069	1.000000	0.000000
X044045	1.000000	0.000000	X068075	0.000000	14.97000
X045047	1.000000	0.000000	X069074	0.000000	19.98000
X046062	1.000000	0.000000	X069070	0.000000	0.000000
X046059	1.000000	0.000000	X070072	0.000000	91.27000
X047061	1.000000	0.000000	X071072	1.000000	0.000000
X048049	1.000000	0.000000	X071081	1.000000	0.000000
X048058	1.000000	0.000000	X072073	1.000000	0.000000
X049050	1.000000	0.000000	X073074	1.000000	0.000000
X050051	0.000000	7.180000	X073142	0.000000	18.53000
X051052	0.5000000	0.000000	X074075	1.000000	0.000000
X051058	1.000000	0.000000	X075076	1.000000	0.000000
X052053	1.000000	0.000000	X076077	1.000000	0.000000
X053054	1.000000	0.000000	X076079	0.000000	48.11000
X054055	1.000000	0.000000	X077078	0.000000	0.000000
X055140	1.000000	0.000000	X077107	0.000000	64.58000
X055059	0.000000	52.81500	X077109	1.000000	0.000000
X056070	1.000000	0.000000	X078079	1.000000	0.000000
X056140	1.000000	0.000000	X078083	1.000000	0.000000
X057140	1.000000	0.000000	X079142	1.000000	0.000000
X057060	0.000000	49.56500	X080081	1.000000	0.000000

X080083	0.000000	5.920000	X106134	1.000000	0.000000
X080142	1.000000	0.000000	X107108	0.000000	65.92000
X082088	1.000000	0.000000	X108132	1.000000	0.000000
X082084	1.000000	0.000000	X108133	1.000000	0.000000
X083084	1.000000	0.000000	X108109	0.000000	0.000000
X084085	0.000000	127.6800	X110111	1.000000	0.000000
X084107	1.000000	0.000000	X110133	1.000000	0.000000
X085086	1.000000	0.000000	X111112	1.000000	0.000000
X085105	1.000000	0.000000	X112113	1.000000	0.000000
X086102	0.000000	0.000000	X113114	1.000000	0.000000
X086087	1.000000	0.000000	X114115	1.000000	0.000000
X087088	1.000000	0.000000	X115116	1.000000	0.000000
X087101	0.000000	0.000000	X116117	1.000000	0.000000
X088089	1.000000	0.000000	X117118	0.000000	0.000000
X088091	0.000000	31.31000	X118119	1.000000	0.000000
X089090	0.000000	30.35000	X118120	1.000000	0.000000
X090091	1.000000	0.000000	X119123	1.000000	0.000000
X091092	1.000000	0.000000	X120121	1.000000	0.000000
X092093	0.000000	0.000000	X120143	0.000000	144.1000
X093101	1.000000	0.000000	X121143	1.000000	0.000000
X094095	1.000000	0.000000	X121122	0.000000	0.300E-01
X094100	0.000000	140.9000	X122123	1.000000	0.000000
X095096	1.000000	0.000000	X122128	1.000000	0.000000
X095099	0.000000	59.48000	X123124	0.000000	120.4200
X096097	0.000000	3.360000	X124125	1.000000	0.000000
X097098	1.000000	0.000000	X125126	1.000000	0.000000
X097099	1.000000	0.000000	X125132	0.000000	80.87000
X098103	1.000000	0.000000	X126127	1.000000	0.000000
X099100	1.000000	0.000000	X126131	0.000000	39.96000
X100102	1.000000	0.000000	X127128	1.000000	0.000000
X101102	1.000000	0.000000	X127130	0.000000	84.06000
X102103	1.000000	0.000000	X128129	0.000000	56.06000
X103104	0.000000	0.000000	X129143	1.000000	0.000000
X104105	1.000000	0.000000	X129130	1.000000	0.000000
X104124	1.000000	0.000000	X130131	1.000000	0.000000
X105106	0.000000	82.76000	X131132	1.000000	0.000000
X105135	1.000000	0.000000	X132134	0.000000	0.000000
X106107	1.000000	0.000000	X134135	1.000000	0.000000

X136137 1.000000 0.000000

Row	Slack or Surplus	Dual Price
1	10300.95	-1.000000
2	0.000000	-52.85000
3	0.000000	-49.82000
4	0.000000	-43.88000
5	0.000000	-48.17000
6	0.000000	-32.13000
7	0.000000	-48.50000
8	0.000000	-52.59000
9	0.000000	-2.120000
10	0.000000	-53.40000
11	0.000000	0.000000
12	0.000000	-48.41000
13	0.000000	-47.45000
14	1.000000	0.000000
15	0.000000	-43.78000
16	0.000000	0.000000
17	0.000000	-51.31000
18	0.000000	-13.78000
19	0.000000	-49.70000
20	0.000000	-18.17000
21	0.000000	-31.73000
22	0.000000	-8.790000
23	0.000000	-48.50000
24	0.000000	0.000000
25	0.000000	-34.50000
26	0.000000	0.000000
27	1.000000	0.000000
28	0.000000	-35.15000
29	0.000000	0.000000
30	0.000000	-21.48000
31	0.000000	-22.89000
32	0.000000	-40.05000
33	0.000000	0.000000
34	0.000000	-45.90000
35	1.000000	0.000000

36	0.000000	-47.77500
37	0.000000	-20.17500
38	0.000000	-29.71500
39	0.000000	-0.8400000
40	0.000000	-56.01000
41	0.000000	0.000000
42	0.000000	-24.71000
43	0.000000	-56.52000
44	0.000000	-26.03000
45	0.000000	0.000000
46	0.000000	-34.90500
47	0.000000	0.000000
48	0.000000	-53.86000
49	1.000000	0.000000
50	0.000000	-52.62000
51	0.000000	-8.460000
52	0.000000	-45.16000
53	0.000000	-16.00000
54	0.000000	-26.34000
55	0.000000	-32.90000
56	0.000000	0.000000
57	0.000000	-28.33000
58	1.000000	0.000000
59	0.000000	0.000000
60	0.000000	-31.23000
61	0.000000	-23.25000
62	0.000000	0.000000
63	0.000000	-50.45000
64	0.000000	-3.650000
65	0.000000	-37.29000
66	0.000000	-10.52000
67	0.000000	-10.69000
68	0.000000	-22.86000
69	1.000000	0.000000
70	0.000000	0.000000
71	0.000000	-49.64000
72	0.000000	-32.57000
73	1.000000	0.000000

74	0.000000	-21.08000	112	0.000000	-10.91000
75	0.000000	0.000000	113	0.000000	0.000000
76	0.000000	0.000000	114	0.000000	-58.00000
77	0.000000	-49.17000	115	1.000000	0.000000
78	0.000000	-5.690000	116	0.000000	-17.49000
79	0.000000	-5.550000	117	0.000000	-31.54000
80	0.000000	-30.56000	118	0.000000	-79.48000
81	0.000000	0.000000	119	0.000000	0.000000
82	0.000000	-49.37000	120	1.000000	0.000000
83	0.000000	0.000000	121	1.000000	0.000000
84	0.000000	-48.81000	122	0.000000	0.000000
85	0.000000	0.000000	123	0.000000	-8.180000
86	0.000000	-45.70000	124	0.000000	-53.13000
87	1.000000	0.000000	125	1.000000	0.000000
88	0.000000	-52.98000	126	0.000000	0.000000
89	0.000000	-50.91000	127	0.000000	-20.07000
90	1.000000	0.000000	128	0.000000	-51.30000
91	0.000000	-52.32000	129	0.000000	0.000000
92	0.000000	0.000000	130	1.000000	0.000000
93	0.000000	-4.540000	131	0.000000	-33.58000
94	0.000000	-84.34000	132	0.000000	-2.920000
95	0.000000	-49.14000	133	0.000000	0.000000
96	0.000000	0.000000	134	0.000000	0.000000
97	0.000000	-42.97000	135	0.000000	0.000000
98	0.000000	-60.52000	136	1.000000	0.000000
99	0.000000	0.000000	137	0.000000	0.000000
100	0.000000	-54.34000	138	1.000000	0.000000
101	0.000000	0.000000	139	1.000000	0.000000
102	0.000000	-53.04000	140	0.000000	0.000000
103	0.000000	-52.74000	141	0.000000	0.000000
104	0.000000	0.000000	142	0.000000	0.000000
105	0.000000	-55.31000	143	1.000000	0.000000
106	0.000000	-3.390000	144	1.000000	0.000000
107	0.000000	-50.19000	145	0.000000	0.000000
108	0.000000	-22.04000	146	1.000000	0.000000
109	0.000000	-32.33000	147	0.000000	-41.46000
110	0.000000	-25.41000	148	0.5000000	0.000000
111	0.000000	-33.12000	149	0.000000	0.000000

150	0.000000	0.000000	188	0.000000	0.000000
151	0.000000	0.000000	189	1.000000	0.000000
152	1.000000	0.000000	190	0.000000	-23.05000
153	0.000000	-55.89000	191	1.000000	0.000000
154	1.000000	0.000000	192	0.000000	0.000000
155	1.000000	0.000000	193	1.000000	0.000000
156	0.000000	-31.61000	194	1.000000	0.000000
157	0.000000	-26.81000	195	0.000000	-2.960000
158	0.000000	0.000000	196	0.000000	0.000000
159	0.000000	0.000000	197	0.000000	0.000000
160	1.000000	0.000000	198	0.000000	-45.41000
161	0.000000	0.000000	199	0.000000	-130.6300
162	0.000000	0.000000	200	0.000000	-52.36000
163	0.000000	0.000000	201	0.000000	0.000000
164	0.000000	-115.3200	202	1.000000	0.000000
165	1.000000	0.000000	203	0.000000	0.000000
166	0.000000	-4.695000	204	0.000000	0.000000
167	0.000000	0.000000	205	1.000000	0.000000
168	1.000000	0.000000	206	1.000000	0.000000
169	0.5000000	0.000000	207	1.000000	0.000000
170	1.000000	0.000000	208	0.000000	0.000000
171	0.000000	0.000000	209	0.000000	-51.48000
172	0.000000	0.000000	210	1.000000	0.000000
173	1.000000	0.000000	211	0.000000	0.000000
174	0.000000	0.000000	212	1.000000	0.000000
175	0.000000	0.000000	213	1.000000	0.000000
176	1.000000	0.000000	214	1.000000	0.000000
177	0.000000	0.000000	215	0.000000	0.000000
178	0.000000	-18.57500	216	0.000000	0.000000
179	0.000000	-8.610000	217	0.000000	-10.43000
180	1.000000	0.000000	218	0.000000	0.000000
181	1.000000	0.000000	219	0.000000	0.000000
182	1.000000	0.000000	220	2.000000	0.000000
183	1.000000	0.000000	221	1.000000	0.000000
184	0.000000	0.000000	222	0.000000	0.000000
185	0.000000	0.000000	223	1.000000	0.000000
186	1.000000	0.000000	224	0.000000	0.000000
187	0.000000	0.000000	225	1.000000	0.000000

226	1.000000	0.000000	264	1.000000	0.000000
227	1.000000	0.000000	265	0.000000	-92.96000
228	0.000000	0.000000	266	0.000000	-3.890000
229	0.000000	0.000000	267	0.000000	0.000000
230	0.000000	0.000000	268	1.000000	0.000000
231	0.000000	-50.51000	269	0.000000	0.000000
232	0.000000	0.000000	270	0.000000	-51.68000
233	0.000000	-131.2700	271	0.000000	-85.70000
234	0.000000	-43.11000	272	0.000000	0.000000
235	1.000000	0.000000	273	1.000000	0.000000
236	0.000000	0.000000	274	0.000000	0.000000
237	0.000000	0.000000	275	0.000000	0.000000
238	1.000000	0.000000	276	0.000000	0.000000
239	1.000000	0.000000	277	0.000000	0.000000
240	0.000000	0.000000	278	0.000000	0.000000
241	1.000000	0.000000	279	0.000000	-70.71000
242	0.000000	-5.080000	280	1.000000	0.000000
243	1.000000	0.000000	281	0.000000	0.000000
244	1.000000	0.000000	282	0.000000	0.000000
245	1.000000	0.000000	283	1.000000	0.000000
246	1.000000	0.000000	284	0.000000	-205.4800
247	0.000000	0.000000	285	0.000000	-23.89000
248	0.000000	0.000000	286	0.000000	0.000000
249	0.000000	0.000000	287	1.000000	0.000000
250	0.000000	0.000000	288	0.000000	0.000000
251	0.000000	-126.8000	289	0.000000	0.000000
252	0.000000	0.000000	290	0.000000	-12.92500
253	0.000000	-60.62000	291	0.000000	-47.59500
254	0.000000	-261.0800	292	1.000000	0.000000
255	0.000000	0.000000	293	0.000000	-51.94000
256	0.000000	0.000000	294	1.000000	0.000000
257	1.000000	0.000000	295	0.000000	0.000000
258	0.000000	0.000000	296	0.000000	0.000000
259	0.000000	0.000000	297	0.000000	0.000000
260	0.000000	0.000000	298	0.000000	0.000000
261	0.000000	0.000000	299	1.000000	0.000000
262	0.000000	-23.74000	300	1.000000	0.000000
263	0.000000	0.000000	301	1.000000	0.000000

302	0.000000	0.000000	340	0.000000	0.000000
303	0.000000	-58.63000	341	0.000000	0.000000
304	0.000000	-58.55000	342	0.000000	-112.0300
305	0.000000	-48.94000	343	0.000000	-38.06000
306	0.000000	-87.52500	344	1.000000	0.000000
307	1.000000	0.000000	345	1.000000	0.000000
308	0.000000	-122.5900	346	0.000000	-39.53000
309	1.000000	0.000000	347	0.000000	-8.180000
310	0.000000	0.000000	348	1.000000	0.000000
311	1.000000	0.000000	349	0.000000	-29.73000
312	0.5000000	0.000000	350	0.000000	0.000000
313	1.000000	0.000000	351	1.000000	0.000000
314	1.000000	0.000000	352	0.000000	0.000000
315	0.000000	-2.970000	353	0.000000	0.000000
316	1.000000	0.000000	354	0.000000	0.000000
317	0.000000	-12.59000	355	0.000000	-20.92000
318	0.000000	-21.39500	356	0.000000	0.000000
319	1.000000	0.000000	357	1.000000	0.000000
320	1.000000	0.000000	358	1.000000	0.000000
321	1.000000	0.000000	359	1.000000	0.000000
322	1.000000	0.000000	360	1.000000	0.000000
323	0.000000	0.000000	361	1.000000	0.000000
324	0.000000	0.000000	362	1.000000	0.000000
325	0.000000	0.000000	363	0.000000	0.000000
326	1.000000	0.000000	364	1.000000	0.000000
327	1.000000	0.000000	365	1.000000	0.000000
328	0.000000	0.000000	366	1.000000	0.000000
329	0.000000	-30.35000	367	0.000000	0.000000
330	0.000000	0.000000	368	0.000000	0.000000
331	1.000000	0.000000	369	0.000000	-28.72000
332	1.000000	0.000000	370	1.000000	0.000000
333	0.000000	0.000000	371	1.000000	0.000000
334	1.000000	0.000000	372	0.000000	0.000000
335	1.000000	0.000000	373	0.000000	-49.90000
336	0.000000	0.000000	374	0.000000	0.000000
337	1.000000	0.000000	375	0.000000	0.000000
338	1.000000	0.000000	376	0.000000	0.000000
339	1.000000	0.000000	377	0.000000	0.000000

378	1.000000	0.000000	416	0.000000	-49.92000
379	0.000000	-89.98000	417	1.000000	0.000000
380	0.000000	0.000000	418	0.000000	0.000000
381	0.000000	0.000000	419	0.000000	0.000000
382	1.000000	0.000000	420	0.000000	0.000000
383	0.000000	0.000000	421	0.000000	0.000000
384	0.000000	0.000000	422	0.000000	0.000000
385	0.000000	0.000000	423	1.000000	0.000000
386	0.000000	-2.710000	424	0.5000000	0.000000
387	0.000000	0.000000	425	1.000000	0.000000
388	0.000000	0.000000	426	0.000000	-167.7200
389	1.000000	0.000000	427	1.000000	0.000000
390	1.000000	0.000000	428	1.000000	0.000000
391	1.000000	0.000000	429	0.000000	-31.66000
392	1.000000	0.000000	430	0.000000	0.000000
393	0.000000	0.000000	431	1.000000	0.000000
394	0.000000	0.000000	432	0.000000	0.000000
395	0.000000	-119.5100	433	0.000000	-69.38000
396	0.000000	-53.98000	434	0.000000	-6.870000
397	0.000000	0.000000	435	0.000000	0.000000
398	0.000000	0.000000	436	1.000000	0.000000
399	1.000000	0.000000	437	0.000000	0.000000
400	0.000000	0.000000	438	0.000000	0.000000
401	1.000000	0.000000	439	0.5000000	0.000000
402	1.000000	0.000000	440	0.5000000	0.000000
403	0.000000	0.000000	441	0.000000	0.000000
404	0.000000	0.000000	442	0.000000	0.000000
405	0.000000	0.000000	443	0.000000	0.000000
406	0.000000	0.000000	444	0.000000	0.000000
407	0.000000	0.000000	445	1.000000	0.000000
408	0.000000	0.000000	446	0.000000	0.000000
409	0.000000	0.000000	447	1.000000	0.000000
410	1.000000	0.000000	448	0.000000	-41.82000
411	1.000000	0.000000	449	0.000000	0.000000
412	1.000000	0.000000	450	1.000000	0.000000
413	1.000000	0.000000	451	0.000000	0.000000
414	0.000000	-17.28000	452	0.000000	0.000000
415	1.000000	0.000000	453	0.000000	0.000000

454	1.000000	0.000000	492	0.000000	0.000000
455	0.000000	0.000000	493	0.000000	-55.91000
456	0.000000	-45.87000	494	0.000000	0.000000
457	1.000000	0.000000	495	0.000000	0.000000
458	1.000000	0.000000	496	0.000000	-2.600000
459	1.000000	0.000000	497	0.000000	-57.25000
460	0.000000	0.000000	498	0.000000	-94.60000
461	0.000000	0.000000	499	0.000000	0.000000
462	0.000000	-19.79000	500	0.000000	-11.16000
463	0.000000	0.000000	501	0.000000	0.000000
464	0.000000	0.000000	502	0.000000	0.000000
465	1.000000	0.000000	503	0.000000	0.000000
466	0.000000	0.000000	504	1.000000	0.000000
467	0.000000	0.000000	505	0.000000	0.000000
468	1.000000	0.000000	506	0.000000	0.000000
469	1.000000	0.000000	507	0.000000	0.000000
470	2.000000	0.000000	508	0.000000	0.000000
471	0.000000	-62.32000	509	0.000000	0.000000
472	1.000000	0.000000	510	0.000000	0.000000
473	0.000000	-72.31000	511	0.000000	0.000000
474	1.000000	0.000000	512	0.000000	-18.80000
475	0.000000	0.000000	513	1.000000	0.000000
476	1.000000	0.000000	514	1.000000	0.000000
477	0.000000	0.000000	515	1.000000	0.000000
478	0.000000	0.000000	516	1.000000	0.000000
479	1.000000	0.000000	517	0.000000	0.000000
480	0.000000	0.000000	518	0.000000	0.000000
481	0.000000	0.000000	519	0.000000	0.000000
482	0.000000	0.000000	520	0.000000	-59.49500
483	0.000000	0.000000	521	0.000000	0.000000
484	0.000000	-43.38000	522	0.000000	0.000000
485	0.000000	0.000000	523	1.000000	0.000000
486	0.000000	-67.55000	524	1.000000	0.000000
487	0.000000	-25.00000	525	0.000000	0.000000
488	1.000000	0.000000	526	0.000000	0.000000
489	0.000000	-84.96000	527	1.000000	0.000000
490	0.000000	0.000000	528	2.000000	0.000000
491	2.000000	0.000000	529	1.000000	0.000000

530	1.000000	0.000000	532	1.000000	0.000000
531	1.000000	0.000000	533	1.000000	0.000000



Mapa 10

Global optimal solution found.

Objective value: 21753.82

Infeasibilities: 0.000000

Total solver iterations: 283

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X021024	1.000000	0.000000
X001003	1.000000	0.000000	X020025	1.000000	0.000000
X002004	1.000000	0.000000	X016026	1.000000	0.000000
X004005	1.000000	0.000000	X025027	1.000000	0.000000
X005006	1.000000	0.000000	X026027	1.000000	0.000000
X003007	1.000000	0.000000	X017028	1.000000	0.000000
X006007	1.000000	0.000000	X027029	1.000000	0.000000
X004008	1.000000	0.000000	X028029	0.500000	0.000000
X008009	1.000000	0.000000	X029030	0.500000	0.000000
X009010	1.000000	0.000000	X030031	1.000000	0.000000
X010011	1.000000	0.000000	X024032	1.000000	0.000000
X011012	1.000000	0.000000	X027032	0.000000	66.76000
X012013	1.000000	0.000000	X031033	1.000000	0.000000
X005014	0.000000	170.3000	X032033	1.000000	0.000000
X011014	1.000000	0.000000	X028034	0.500000	0.000000
X006015	0.000000	217.6900	X034035	1.000000	0.000000
X014015	1.000000	0.000000	X035036	1.000000	0.000000
X007016	0.000000	192.9800	X017037	0.000000	102.2500
X015016	1.000000	0.000000	X036037	1.000000	0.000000
X013017	1.000000	0.000000	X037038	1.000000	0.000000
X016017	0.000000	0.000000	X038039	0.000000	167.7700
X003018	0.000000	48.69000	X039040	1.000000	0.000000
X018019	1.000000	0.000000	X039041	1.000000	0.000000
X019020	0.000000	67.77000	X038042	1.000000	0.000000
X020021	1.000000	0.000000	X041042	0.000000	147.8700
X018022	1.000000	0.000000	X042043	1.000000	0.000000
X021023	0.000000	15.01000	X043044	1.000000	0.000000
X022023	1.000000	0.000000	X044045	1.000000	0.000000
			X041046	1.000000	0.000000

X043046	0.000000	187.1200	X067068	1.000000	0.000000
X044047	0.000000	154.5300	X033069	0.000000	0.000000
X046047	0.5000000	0.000000	X068070	1.000000	0.000000
X046048	0.5000000	0.000000	X069070	1.000000	0.000000
X047048	0.5000000	0.000000	X069071	1.000000	0.000000
X045049	0.000000	114.9000	X023072	1.000000	0.000000
X047049	1.000000	0.000000	X072073	0.000000	142.3600
X048049	0.5000000	0.000000	X073074	1.000000	0.000000
X040050	1.000000	0.000000	X071075	1.000000	0.000000
X048050	0.000000	25.69000	X074075	1.000000	0.000000
X030051	0.5000000	0.000000	X072076	1.000000	0.000000
X034051	0.5000000	0.000000	X076077	1.000000	0.000000
X035052	0.000000	51.20000	X022078	0.000000	18.52000
X051052	1.000000	0.000000	X078079	1.000000	0.000000
X036053	0.000000	107.5200	X079080	1.000000	0.000000
X052053	1.000000	0.000000	X077081	1.000000	0.000000
X053054	0.5000000	0.000000	X078081	1.000000	0.000000
X045054	1.000000	0.000000	X081082	1.000000	0.000000
X054055	0.000000	0.000000	X082083	1.000000	0.000000
X049056	0.5000000	0.000000	X079084	1.000000	0.000000
X055056	1.000000	0.000000	X083084	1.000000	0.000000
X048057	1.000000	0.000000	X073085	1.000000	0.000000
X049057	0.000000	18.32000	X076085	0.000000	103.7400
X056057	1.000000	0.000000	X077086	0.000000	66.64000
X057058	0.000000	30.33000	X085086	1.000000	0.000000
X058059	1.000000	0.000000	X081087	0.000000	140.7200
X056060	0.000000	20.78000	X086087	1.000000	0.000000
X059060	1.000000	0.000000	X082088	0.000000	76.96000
X055061	1.000000	0.000000	X087088	1.000000	0.000000
X060061	1.000000	0.000000	X088089	1.000000	0.000000
X054062	1.000000	0.000000	X083090	0.000000	0.000000
X061062	0.000000	3.080000	X089090	1.000000	0.000000
X053063	1.000000	0.000000	X084091	0.000000	2.450000
X033064	0.000000	99.08000	X090091	1.000000	0.000000
X063064	1.000000	0.000000	X089092	0.000000	75.50000
X064065	1.000000	0.000000	X091092	1.000000	0.000000
X065066	1.000000	0.000000	X080093	1.000000	0.000000
X066067	1.000000	0.000000	X092093	1.000000	0.000000

X092094	1.000000	0.000000	X116117	1.000000	0.000000
X074095	0.000000	85.33000	X115118	1.000000	0.000000
X088095	1.000000	0.000000	X116118	1.000000	0.000000
X075096	0.000000	140.4400	X116119	1.000000	0.000000
X095096	1.000000	0.000000	X118120	0.000000	0.000000
X094097	1.000000	0.000000	X119120	0.000000	43.73000
X096097	0.000000	95.97000	X114121	0.000000	0.000000
X096098	1.000000	0.000000	X120121	1.000000	0.000000
X070099	0.000000	87.71000	X113122	0.000000	64.85000
X098099	1.000000	0.000000	X121122	1.000000	0.000000
X097100	1.000000	0.000000	X112123	0.000000	32.87000
X098100	0.000000	92.17000	X122123	1.000000	0.000000
X099101	0.000000	77.87000	X061124	0.000000	0.000000
X100101	1.000000	0.000000	X117124	0.000000	78.00000
X068102	0.000000	103.1600	X124125	1.000000	0.000000
X099102	1.000000	0.000000	X119126	1.000000	0.000000
X101103	1.000000	0.000000	X125126	1.000000	0.000000
X102103	0.000000	0.000000	X120127	1.000000	0.000000
X103104	1.000000	0.000000	X126127	0.000000	27.02000
X067105	0.000000	69.26000	X127128	1.000000	0.000000
X102105	1.000000	0.000000	X123129	1.000000	0.000000
X066106	0.000000	0.000000	X128129	1.000000	0.000000
X106107	1.000000	0.000000	X093130	0.000000	0.000000
X105108	1.000000	0.000000	X101130	1.000000	0.000000
X107108	1.000000	0.000000	X110130	0.000000	83.44000
X104109	1.000000	0.000000	X130131	1.000000	0.000000
X108109	0.000000	86.56000	X131132	1.000000	0.000000
X109110	1.000000	0.000000	X132133	1.000000	0.000000
X110111	1.000000	0.000000	X133134	1.000000	0.000000
X109112	1.000000	0.000000	X134135	1.000000	0.000000
X112113	1.000000	0.000000	X135136	1.000000	0.000000
X107114	1.000000	0.000000	X133137	1.000000	0.000000
X113114	1.000000	0.000000	X136138	1.000000	0.000000
X106115	1.000000	0.000000	X137138	1.000000	0.000000
X115116	0.000000	63.28000	X138139	1.000000	0.000000
X062117	1.000000	0.000000	X139140	1.000000	0.000000
X065117	0.000000	3.240000	X136141	0.000000	145.3400
X066117	0.000000	0.000000	X140141	1.000000	0.000000

X135142	0.000000	113.2400	X168170	1.000000	0.000000
X141142	1.000000	0.000000	X169170	0.000000	0.000000
X134143	0.000000	89.49000	X169171	1.000000	0.000000
X142143	1.000000	0.000000	X166172	1.000000	0.000000
X143144	1.000000	0.000000	X170172	1.000000	0.000000
X132145	0.000000	0.000000	X165173	1.000000	0.000000
X144145	1.000000	0.000000	X164174	0.000000	97.12000
X111146	1.000000	0.000000	X173174	1.000000	0.000000
X145146	1.000000	0.000000	X163175	0.000000	0.000000
X146147	0.000000	0.000000	X174175	1.000000	0.000000
X144148	1.000000	0.000000	X158176	0.000000	0.000000
X147148	1.000000	0.000000	X159176	1.000000	0.000000
X140149	1.000000	0.000000	X162176	0.000000	84.75000
X149150	1.000000	0.000000	X175176	1.000000	0.000000
X142151	0.000000	95.76000	X158177	1.000000	0.000000
X148152	0.000000	0.000000	X177178	1.000000	0.000000
X151152	1.000000	0.000000	X111179	0.000000	80.77000
X147153	1.000000	0.000000	X129179	0.000000	0.000000
X152153	0.000000	149.9900	X153179	1.000000	0.000000
X150154	1.000000	0.000000	X178179	1.000000	0.000000
X151154	0.000000	0.000000	X171180	1.000000	0.000000
X154155	1.000000	0.000000	X177180	0.000000	61.43000
X151156	1.000000	0.000000	X178181	0.000000	129.9700
X155156	0.000000	68.04800	X180181	1.000000	0.000000
X156157	1.000000	0.000000	X179182	0.000000	12.13000
X152158	1.000000	0.000000	X181182	1.000000	0.000000
X156160	1.000000	0.000000	X169183	1.000000	0.000000
X155161	1.000000	0.000000	X182183	1.000000	0.000000
X160161	1.000000	0.000000	X183184	0.000000	0.000000
X161162	1.000000	0.000000	X184185	1.000000	0.000000
X162163	1.000000	0.000000	X185186	0.000000	7.280000
X163164	1.000000	0.000000	X129187	0.000000	2.390000
X164165	1.000000	0.000000	X185187	1.000000	0.000000
X165166	0.000000	0.000000	X128188	0.000000	5.970000
X166167	1.000000	0.000000	X186188	1.000000	0.000000
X167168	1.000000	0.000000	X187188	1.000000	0.000000
X168169	0.000000	0.000000	X127189	0.000000	0.000000
X167170	0.000000	65.16500	X188189	1.000000	0.000000

X125190	0.000000	39.35000	11	0.000000	-42.08000
X127190	0.000000	67.99000	12	0.000000	-63.57000
X189190	1.000000	0.000000	13	1.000000	0.000000
X190191	1.000000	0.000000	14	0.000000	-1.230000
X125192	1.000000	0.000000	15	0.000000	-52.51000
X191192	0.000000	0.000000	16	0.000000	0.000000
X124193	1.000000	0.000000	17	0.000000	-44.89000
X192193	1.000000	0.000000	18	1.000000	0.000000
X193194	1.000000	0.000000	19	0.000000	-29.51000
X058195	1.000000	0.000000	20	0.000000	-46.03000
X194195	1.000000	0.000000	21	0.000000	-23.94500
X050196	1.000000	0.000000	22	0.000000	-40.03000
X195196	0.000000	0.000000	23	0.000000	-16.44000
X191197	1.000000	0.000000	24	0.000000	-17.76500
X195198	0.000000	49.70000	25	0.000000	-33.48500
X197198	1.000000	0.000000	26	0.000000	-14.72000
X189199	0.000000	15.11000	27	0.000000	-42.99000
X198199	1.000000	0.000000	28	0.000000	-8.260000
X196200	1.000000	0.000000	29	0.000000	-25.70000
X198200	0.000000	0.000000	30	0.000000	-18.20000
X199201	1.000000	0.000000	31	0.000000	-32.55000
X200201	1.000000	0.000000	32	0.000000	-0.9100000
X184202	1.000000	0.000000	33	0.000000	-35.67000
X186202	1.000000	0.000000	34	0.000000	0.000000
X201202	0.000000	23.87500	35	0.000000	-20.97000
X019203	1.000000	0.000000	36	0.000000	-16.71000
			37	0.5000000	0.000000
			38	0.000000	-18.03000
			39	0.000000	-21.39000
			40	0.000000	-35.62500
			41	0.000000	-18.72500
			42	1.000000	0.000000
			43	1.000000	0.000000
			44	0.000000	-57.48000
			45	0.5000000	0.000000
			46	0.000000	-13.63000
			47	0.000000	-12.18000
			48	0.000000	-49.95000
Row	Slack or Surplus	Dual Price			
1	21753.82	-1.000000			
2	0.000000	-24.39000			
3	1.000000	0.000000			
4	0.000000	-55.54000			
5	0.000000	-1.750000			
6	0.000000	-49.87000			
7	1.000000	0.000000			
8	0.000000	0.000000			
9	0.000000	-49.13000			
10	0.000000	-12.27000			

49	0.000000	-1.130000	87	0.000000	-102.0700
50	0.000000	-49.57000	88	0.000000	-54.80000
51	0.000000	-59.11000	89	0.000000	0.000000
52	0.000000	-14.78000	90	1.000000	0.000000
53	0.000000	0.000000	91	0.000000	-4.330000
54	0.000000	-4.280000	92	1.000000	0.000000
55	0.000000	-46.27000	93	0.000000	0.000000
56	0.000000	-40.03000	94	0.000000	-29.56000
57	0.000000	-4.060000	95	0.000000	0.000000
58	0.000000	0.000000	96	0.000000	-31.35000
59	0.000000	-10.44000	97	0.000000	-52.90000
60	0.000000	-46.03000	98	0.000000	-22.22000
61	0.000000	0.000000	99	1.000000	0.000000
62	0.000000	-29.92000	100	0.000000	0.000000
63	0.000000	-29.93000	101	0.000000	-47.25000
64	0.000000	-46.73000	102	0.000000	0.000000
65	1.000000	0.000000	103	0.000000	-4.620000
66	1.000000	0.000000	104	0.000000	-38.54000
67	0.000000	-57.83000	105	0.000000	0.000000
68	0.000000	-79.58000	106	0.000000	-33.05000
69	0.000000	0.000000	107	0.000000	-37.68000
70	0.000000	-26.06000	108	1.000000	0.000000
71	0.000000	-13.87000	109	0.000000	-37.39000
72	0.000000	-48.12000	110	0.000000	0.000000
73	1.000000	0.000000	111	0.000000	-34.02000
74	0.000000	-26.59000	112	0.000000	-4.340000
75	0.000000	-31.22000	113	0.000000	-58.56000
76	0.000000	-56.47000	114	0.000000	-69.00000
77	1.000000	0.000000	115	1.000000	0.000000
78	0.000000	-50.55000	116	0.000000	0.000000
79	0.000000	0.000000	117	0.000000	-44.33000
80	0.000000	-52.25000	118	0.000000	-4.460000
81	0.000000	0.000000	119	1.000000	0.000000
82	0.000000	0.000000	120	1.000000	0.000000
83	0.000000	-59.80000	121	0.000000	-30.46000
84	0.000000	-53.28000	122	0.000000	-21.00000
85	1.000000	0.000000	123	0.000000	-35.13000
86	0.000000	-10.29000	124	1.000000	0.000000

125	0.000000	-57.28000	163	0.000000	-37.39000
126	0.000000	-15.54000	164	0.000000	0.000000
127	0.000000	-42.27000	165	0.000000	-10.36000
128	0.000000	-65.80000	166	0.000000	-29.56000
129	0.000000	-23.74000	167	1.000000	0.000000
130	0.000000	-34.07000	168	0.000000	-44.34000
131	0.000000	-24.19000	169	0.000000	-21.25000
132	0.000000	-3.450000	170	0.000000	-5.100000
133	0.000000	-26.12000	171	0.000000	-47.66000
134	1.000000	0.000000	172	0.000000	-71.18000
135	0.000000	-60.31000	173	0.000000	0.000000
136	0.000000	-30.36000	174	0.000000	-13.80500
137	0.000000	-40.49000	175	0.000000	0.000000
138	1.000000	0.000000	176	0.000000	-67.93000
139	0.000000	-21.16000	177	1.000000	0.000000
140	0.000000	-4.960000	178	1.000000	0.000000
141	0.000000	-2.510000	179	1.000000	0.000000
142	0.000000	-41.14000	180	1.000000	0.000000
143	0.000000	-6.520000	181	1.000000	0.000000
144	0.000000	-16.85000	182	0.000000	-43.65000
145	0.000000	0.000000	183	0.000000	-42.90000
146	0.000000	-45.42500	184	0.000000	0.000000
147	0.000000	-27.90500	185	1.000000	0.000000
148	0.000000	0.000000	186	0.000000	-211.4100
149	0.000000	-29.58000	187	0.000000	-48.17000
150	0.000000	-11.76000	188	0.000000	-55.40000
151	0.000000	-56.27000	189	0.000000	0.000000
152	0.000000	0.000000	190	1.000000	0.000000
153	0.000000	-47.91000	191	0.000000	0.000000
154	0.000000	-49.97000	192	0.000000	-149.7800
155	0.000000	0.000000	193	1.000000	0.000000
156	0.000000	-64.16000	194	0.000000	0.000000
157	0.000000	-14.18000	195	0.000000	0.000000
158	0.000000	-60.09500	196	1.000000	0.000000
159	0.000000	0.000000	197	0.000000	0.000000
160	0.000000	-46.56000	198	0.000000	0.000000
161	0.000000	-43.09000	199	0.000000	-375.4600
162	1.000000	0.000000	200	0.000000	-49.07000

201	1.000000	0.000000	239	1.000000	0.000000
202	0.5000000	0.000000	240	0.000000	-19.23000
203	0.5000000	0.000000	241	1.000000	0.000000
204	0.5000000	0.000000	242	1.000000	0.000000
205	0.000000	-24.22500	243	0.000000	0.000000
206	0.000000	-64.60000	244	1.000000	0.000000
207	0.000000	0.000000	245	0.000000	0.000000
208	0.5000000	0.000000	246	0.000000	0.000000
209	1.000000	0.000000	247	0.000000	0.000000
210	1.000000	0.000000	248	1.000000	0.000000
211	0.000000	0.000000	249	1.000000	0.000000
212	0.000000	0.000000	250	1.000000	0.000000
213	0.000000	0.000000	251	1.000000	0.000000
214	0.000000	-34.92000	252	0.000000	-125.6200
215	0.000000	0.000000	253	1.000000	0.000000
216	0.000000	0.000000	254	0.000000	-43.09000
217	1.000000	0.000000	255	1.000000	0.000000
218	1.000000	0.000000	256	1.000000	0.000000
219	0.000000	0.000000	257	1.000000	0.000000
220	0.000000	0.000000	258	1.000000	0.000000
221	1.000000	0.000000	259	0.000000	0.000000
222	0.000000	-6.080000	260	0.000000	0.000000
223	1.000000	0.000000	261	0.000000	0.000000
224	0.000000	0.000000	262	2.000000	0.000000
225	0.000000	0.000000	263	1.000000	0.000000
226	0.000000	0.000000	264	0.000000	0.000000
227	1.000000	0.000000	265	0.000000	-30.54000
228	0.5000000	0.000000	266	2.000000	0.000000
229	0.000000	0.000000	267	1.000000	0.000000
230	1.000000	0.000000	268	0.000000	-56.47000
231	0.000000	0.000000	269	0.000000	-54.70000
232	0.000000	0.000000	270	1.000000	0.000000
233	0.000000	-28.63000	271	0.000000	-50.33000
234	0.000000	0.000000	272	1.000000	0.000000
235	0.000000	0.000000	273	1.000000	0.000000
236	0.000000	-72.70000	274	0.000000	0.000000
237	0.000000	-64.92000	275	2.000000	0.000000
238	0.000000	0.000000	276	1.000000	0.000000

277	0.000000	0.000000	315	0.000000	-2.580000
278	0.000000	-10.87000	316	1.000000	0.000000
279	0.000000	0.000000	317	0.000000	0.000000
280	0.000000	-50.17000	318	1.000000	0.000000
281	1.000000	0.000000	319	0.000000	0.000000
282	1.000000	0.000000	320	1.000000	0.000000
283	1.000000	0.000000	321	0.000000	0.000000
284	1.000000	0.000000	322	1.000000	0.000000
285	1.000000	0.000000	323	0.000000	-60.75000
286	1.000000	0.000000	324	0.000000	0.000000
287	1.000000	0.000000	325	1.000000	0.000000
288	1.000000	0.000000	326	1.000000	0.000000
289	0.000000	0.000000	327	0.000000	0.000000
290	2.000000	0.000000	328	0.000000	0.000000
291	0.000000	-56.27000	329	0.000000	-16.05000
292	1.000000	0.000000	330	1.000000	0.000000
293	0.000000	-60.75000	331	0.000000	0.000000
294	1.000000	0.000000	332	0.000000	-31.56000
295	0.000000	-3.810000	333	1.000000	0.000000
296	0.000000	0.000000	334	1.000000	0.000000
297	0.000000	0.000000	335	1.000000	0.000000
298	1.000000	0.000000	336	1.000000	0.000000
299	1.000000	0.000000	337	0.000000	0.000000
300	1.000000	0.000000	338	0.000000	0.000000
301	0.000000	0.000000	339	1.000000	0.000000
302	1.000000	0.000000	340	0.000000	0.000000
303	0.000000	0.000000	341	1.000000	0.000000
304	1.000000	0.000000	342	1.000000	0.000000
305	0.000000	-20.89000	343	0.000000	-10.65500
306	1.000000	0.000000	344	0.000000	-87.41000
307	1.000000	0.000000	345	0.000000	-73.95000
308	1.000000	0.000000	346	0.000000	-24.56000
309	1.000000	0.000000	347	0.000000	0.000000
310	1.000000	0.000000	348	1.000000	0.000000
311	0.000000	-152.5800	349	1.000000	0.000000
312	1.000000	0.000000	350	1.000000	0.000000
313	0.000000	-53.28000	351	1.000000	0.000000
314	1.000000	0.000000	352	0.000000	0.000000

353	0.000000	0.000000	391	0.000000	0.000000
354	0.000000	0.000000	392	1.000000	0.000000
355	1.000000	0.000000	393	1.000000	0.000000
356	0.000000	0.000000	394	2.000000	0.000000
357	0.000000	-5.705000	395	1.000000	0.000000
358	0.000000	0.000000	396	0.000000	0.000000
359	0.000000	0.000000	397	0.000000	-9.610000
360	2.000000	0.000000	398	1.000000	0.000000
361	1.000000	0.000000	399	0.000000	0.000000
362	1.000000	0.000000	400	0.000000	-47.03000
363	0.000000	0.000000	401	0.000000	-91.13000
364	0.000000	0.000000	402	1.000000	0.000000
365	1.000000	0.000000	403	0.000000	-8.125000
366	0.000000	-74.92000	404	0.000000	-3.175000
367	0.000000	0.000000	405	0.5000000	0.000000
368	0.000000	0.000000	406	0.000000	-31.73000
369	0.000000	-36.37000	407	0.000000	0.000000
370	1.000000	0.000000	408	0.000000	0.000000
371	0.000000	-12.67000	409	0.5000000	0.000000
372	0.000000	-9.640000	410	0.000000	-13.48500
373	1.000000	0.000000	411	0.000000	0.000000
374	1.000000	0.000000	412	1.000000	0.000000
375	0.000000	0.000000	413	0.000000	0.000000
376	0.000000	-239.3600	414	1.000000	0.000000
377	0.000000	-131.8800	415	0.000000	-113.4500
378	0.000000	0.000000	416	0.000000	0.000000
379	1.000000	0.000000	417	0.000000	0.000000
380	0.000000	0.000000	418	0.000000	0.000000
381	0.000000	0.000000	419	0.000000	0.000000
382	0.000000	0.000000	420	0.000000	-44.95000
383	0.000000	0.000000	421	1.000000	0.000000
384	0.000000	-152.7500	422	0.5000000	0.000000
385	0.000000	-60.62000	423	0.000000	0.000000
386	1.000000	0.000000	424	0.000000	-14.43000
387	0.000000	0.000000	425	0.000000	0.000000
388	0.000000	-329.2300	426	0.5000000	0.000000
389	1.000000	0.000000	427	1.000000	0.000000
390	1.000000	0.000000	428	0.000000	-28.26000

429	0.000000	-23.15000	467	1.000000	0.000000
430	1.000000	0.000000	468	0.000000	0.000000
431	0.5000000	0.000000	469	0.000000	0.000000
432	1.000000	0.000000	470	1.000000	0.000000
433	1.000000	0.000000	471	0.000000	0.000000
434	0.000000	0.000000	472	0.000000	0.000000
435	1.000000	0.000000	473	0.000000	0.000000
436	0.000000	0.000000	474	0.000000	-11.66000
437	0.000000	0.000000	475	0.000000	-17.44000
438	0.000000	0.000000	476	1.000000	0.000000
439	1.000000	0.000000	477	0.000000	0.000000
440	0.000000	0.000000	478	0.000000	0.000000
441	0.000000	0.000000	479	0.000000	-7026.000
442	0.000000	0.000000	480	1.000000	0.000000
443	0.000000	0.000000	481	1.000000	0.000000
444	1.000000	0.000000	482	1.000000	0.000000
445	0.000000	0.000000	483	0.000000	-34.94000
446	0.000000	-48.79000	484	2.000000	0.000000
447	0.000000	0.000000	485	0.000000	0.000000
448	1.000000	0.000000	486	0.000000	-16.37000
449	0.000000	0.000000	487	0.000000	0.000000
450	0.000000	0.000000	488	0.000000	-9.240000
451	0.000000	0.000000	489	0.000000	-4.760000
452	0.000000	-20.63000	490	0.000000	0.000000
453	1.000000	0.000000	491	1.000000	0.000000
454	1.000000	0.000000	492	1.000000	0.000000
455	0.000000	-156.5300	493	0.000000	-14.22000
456	1.000000	0.000000	494	0.000000	0.000000
457	0.000000	-51.43000	495	1.000000	0.000000
458	0.000000	0.000000	496	1.000000	0.000000
459	0.000000	0.000000	497	1.000000	0.000000
460	0.000000	0.000000	498	1.000000	0.000000
461	1.000000	0.000000	499	1.000000	0.000000
462	1.000000	0.000000	500	1.000000	0.000000
463	1.000000	0.000000	501	0.000000	-15.89000
464	0.000000	0.000000	502	1.000000	0.000000
465	1.000000	0.000000	503	0.000000	-41.63000
466	1.000000	0.000000	504	0.000000	0.000000

505	0.000000	0.000000	543	0.000000	0.000000
506	0.000000	-43.17000	544	0.000000	-77.95000
507	0.000000	0.000000	545	0.000000	-0.1350000
508	1.000000	0.000000	546	0.000000	0.000000
509	0.000000	0.000000	547	1.000000	0.000000
510	0.000000	0.000000	548	1.000000	0.000000
511	0.000000	-39.87000	549	0.000000	0.000000
512	0.000000	-59.11000	550	0.000000	0.000000
513	1.000000	0.000000	551	0.000000	-11.20000
514	0.000000	-173.9200	552	1.000000	0.000000
515	1.000000	0.000000	553	0.000000	0.000000
516	1.000000	0.000000	554	1.000000	0.000000
517	0.000000	0.000000	555	1.000000	0.000000
518	1.000000	0.000000	556	0.000000	0.000000
519	1.000000	0.000000	557	1.000000	0.000000
520	1.000000	0.000000	558	0.000000	0.000000
521	0.000000	0.000000	559	1.000000	0.000000
522	1.000000	0.000000	560	1.000000	0.000000
523	0.000000	-103.6500	561	1.000000	0.000000
524	0.000000	-54.20000	562	0.000000	-13.00000
525	0.000000	-55.01000	563	1.000000	0.000000
526	0.000000	-12.53000	564	0.000000	0.000000
527	0.000000	0.000000	565	0.000000	-45.36000
528	0.000000	-59.97000	566	1.000000	0.000000
529	0.000000	0.000000	567	0.000000	0.000000
530	0.000000	0.000000	568	0.000000	0.000000
531	2.000000	0.000000	569	0.000000	0.000000
532	0.000000	0.000000	570	0.000000	-44.15000
533	0.000000	-67.43000	571	0.000000	0.000000
534	1.000000	0.000000	572	1.000000	0.000000
535	0.000000	0.000000	573	0.000000	0.000000
536	0.000000	-18.34000	574	0.000000	0.000000
537	0.000000	0.000000	575	0.000000	0.000000
538	0.000000	0.000000	576	0.000000	-468.1900
539	1.000000	0.000000	577	0.000000	0.000000
540	0.000000	0.000000	578	1.000000	0.000000
541	0.000000	-70.23500	579	0.000000	0.000000
542	1.000000	0.000000	580	0.000000	0.000000

581	0.000000	0.000000	619	0.000000	-28.10000
582	1.000000	0.000000	620	0.5000000	0.000000
583	0.000000	0.000000	621	0.000000	-21.11000
584	0.000000	0.000000	622	0.000000	0.000000
585	1.000000	0.000000	623	0.000000	-1.640000
586	0.000000	0.000000	624	1.000000	0.000000
587	0.000000	0.000000	625	1.000000	0.000000
588	1.000000	0.000000	626	0.000000	0.000000
589	0.000000	0.000000	627	0.000000	-0.3700000
590	1.000000	0.000000	628	1.000000	0.000000
591	0.000000	0.000000	629	0.000000	-39.19000
592	0.000000	0.000000	630	0.000000	0.000000
593	1.000000	0.000000	631	0.000000	0.000000
594	0.5000000	0.000000	632	0.000000	0.000000
595	0.5000000	0.000000	633	1.000000	0.000000
596	0.000000	0.000000	634	0.000000	0.000000
597	1.000000	0.000000	635	0.000000	0.000000
598	1.000000	0.000000	636	0.000000	0.000000
599	0.000000	0.000000	637	0.000000	0.000000
600	0.000000	0.000000	638	0.000000	0.000000
601	0.000000	0.000000	639	0.000000	0.000000
602	0.000000	0.000000	640	1.000000	0.000000
603	1.000000	0.000000	641	1.000000	0.000000
604	0.000000	0.000000	642	0.000000	0.000000
605	1.000000	0.000000	643	0.000000	0.000000
606	1.000000	0.000000	644	0.000000	-39.54000
607	0.000000	0.000000	645	1.000000	0.000000
608	0.000000	0.000000	646	0.000000	-40.51000
609	1.000000	0.000000	647	0.000000	0.000000
610	0.5000000	0.000000	648	1.000000	0.000000
611	0.5000000	0.000000	649	0.000000	-23.74000
612	0.000000	-9.760000	650	0.000000	0.000000
613	0.5000000	0.000000	651	0.000000	0.000000
614	1.000000	0.000000	652	1.000000	0.000000
615	0.5000000	0.000000	653	0.000000	-125.0600
616	0.000000	-38.98500	654	0.000000	0.000000
617	0.5000000	0.000000	655	1.000000	0.000000
618	0.5000000	0.000000	656	1.000000	0.000000

657	0.000000	-8.500000	695	1.000000	0.000000
658	1.000000	0.000000	696	0.000000	0.000000
659	1.000000	0.000000	697	0.000000	0.000000
660	1.000000	0.000000	698	0.000000	0.000000
661	1.000000	0.000000	699	1.000000	0.000000
662	1.000000	0.000000	700	0.000000	-82.07000
663	0.000000	0.000000	701	0.000000	0.000000
664	0.000000	-20.86000	702	0.000000	0.000000
665	1.000000	0.000000	703	0.000000	0.000000
666	0.000000	0.000000	704	1.000000	0.000000
667	1.000000	0.000000	705	1.000000	0.000000
668	0.000000	-57.81000	706	1.000000	0.000000
669	0.000000	0.000000	707	1.000000	0.000000
670	0.000000	-66.01000	708	1.000000	0.000000
671	0.000000	0.000000	709	1.000000	0.000000
672	0.000000	0.000000	710	1.000000	0.000000
673	1.000000	0.000000	711	1.000000	0.000000
674	1.000000	0.000000	712	0.000000	0.000000
675	1.000000	0.000000	713	0.000000	0.000000
676	0.000000	0.000000	714	0.000000	0.000000
677	1.000000	0.000000	715	1.000000	0.000000
678	0.000000	0.000000	716	0.000000	0.000000
679	0.000000	0.000000	717	0.000000	0.000000
680	0.000000	0.000000	718	1.000000	0.000000
681	0.000000	0.000000	719	0.000000	0.000000
682	0.000000	0.000000	720	1.000000	0.000000
683	2.000000	0.000000	721	0.000000	0.000000
684	0.000000	0.000000	722	0.000000	-7.780000
685	0.000000	-35.31000	723	1.000000	0.000000
686	0.000000	0.000000	724	0.000000	-21.49000
687	1.000000	0.000000	725	0.000000	0.000000
688	1.000000	0.000000	726	0.000000	0.000000
689	0.000000	-55.35000	727	1.000000	0.000000
690	1.000000	0.000000	728	0.000000	0.000000
691	0.000000	-54.50000	729	0.000000	0.000000
692	0.000000	0.000000	730	0.000000	-1.145000
693	0.000000	0.000000	731	0.000000	0.000000
694	1.000000	0.000000	732	1.000000	0.000000

733	0.000000	-16.99500	763	2.000000	0.000000
734	0.000000	-32.99000	764	1.000000	0.000000
735	1.000000	0.000000	765	1.000000	0.000000
736	0.000000	0.000000	766	0.000000	0.000000
737	0.000000	-22.66000	767	0.000000	0.000000
738	1.000000	0.000000	768	1.000000	0.000000
739	1.000000	0.000000	769	0.000000	0.000000
740	1.000000	0.000000	770	1.000000	0.000000
741	1.000000	0.000000	771	1.000000	0.000000
742	1.000000	0.000000	772	0.000000	0.000000
743	0.000000	0.000000	773	0.000000	0.000000
744	0.000000	0.000000	774	0.000000	-12.65000
745	1.000000	0.000000	775	1.000000	0.000000
746	0.000000	0.000000	776	1.000000	0.000000
747	0.000000	0.000000	777	1.000000	0.000000
748	0.000000	0.000000	778	0.000000	0.000000
749	1.000000	0.000000	779	1.000000	0.000000
750	1.000000	0.000000	780	0.000000	0.000000
751	2.000000	0.000000	781	0.000000	0.000000
752	1.000000	0.000000	782	1.000000	0.000000
753	0.500000	0.000000	783	0.000000	0.000000
754	0.000000	0.000000	784	0.000000	0.000000
755	0.500000	0.000000	785	0.000000	0.000000
756	0.500000	0.000000	786	0.000000	0.000000
757	0.500000	0.000000	787	1.000000	0.000000
758	1.000000	0.000000	788	1.000000	0.000000
759	1.500000	0.000000	789	0.000000	-10.54000
760	1.000000	0.000000	790	1.000000	0.000000
761	1.000000	0.000000	791	1.000000	0.000000
762	1.000000	0.000000			

Mapa 11

Global optimal solution found.

Objective value: 12186.10

Infeasibilities: 0.000000

Total solver iterations: 479

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X019020	0.5000000	0.000000
X001004	1.000000	0.000000	X020022	1.000000	0.000000
X002003	1.000000	0.000000	X021022	0.000000	0.000000
X002005	0.5000000	0.000000	X021023	1.000000	0.000000
X003006	1.000000	0.000000	X022025	1.000000	0.000000
X004005	0.5000000	0.000000	X023024	0.5000000	0.000000
X004009	0.5000000	0.000000	X023026	0.5000000	0.000000
X005008	0.5000000	0.000000	X024025	1.000000	0.000000
X006007	1.000000	0.000000	X024026	0.5000000	0.000000
X007010	0.5000000	0.000000	X025028	0.000000	0.000000
X007011	0.5000000	0.000000	X026027	0.5000000	0.000000
X008010	0.5000000	0.000000	X027033	0.5000000	0.000000
X008009	0.5000000	0.000000	X027028	0.5000000	0.000000
X009013	0.5000000	0.000000	X028043	0.5000000	0.000000
X010012	0.2500000	0.000000	X028044	0.5000000	0.000000
X011012	0.5000000	0.000000	X029048	0.000000	0.000000
X011020	0.5000000	0.000000	X029030	1.000000	0.000000
X012013	0.5000000	0.000000	X029051	1.000000	0.000000
X012015	0.5000000	0.000000	X030031	0.7500000	0.000000
X013014	0.5000000	0.000000	X030052	0.2500000	0.000000
X014015	0.5000000	0.000000	X031032	0.7500000	0.000000
X014016	0.5000000	0.000000	X031053	0.2500000	0.000000
X015017	0.5000000	0.000000	X032033	0.7500000	0.000000
X016017	0.5000000	0.000000	X032054	0.2500000	0.000000
X016018	0.5000000	0.000000	X033034	1.000000	0.000000
X017019	0.5000000	0.000000	X034035	1.000000	0.000000
X018019	0.5000000	0.000000	X035048	1.000000	0.000000
X018021	1.000000	0.000000	X036055	1.000000	0.000000
			X036037	1.000000	0.000000

X037056	0.000000	7.703400	X058065	0.5000000	0.000000
X038039	1.000000	0.000000	X059060	0.7500000	0.000000
X037038	1.000000	0.000000	X059076	0.2500000	0.000000
X039040	1.000000	0.000000	X060077	0.5000000	0.000000
X039058	0.000000	34.40470	X060061	0.5000000	0.000000
X040041	0.5000000	0.000000	X061062	0.5000000	0.000000
X040043	0.5000000	0.000000	X061078	0.2500000	0.000000
X041042	0.5000000	0.000000	X062063	0.5000000	0.000000
X041045	0.5000000	0.000000	X062079	0.5000000	0.000000
X042046	0.000000	0.000000	X063064	0.5000000	0.000000
X042213	0.5000000	0.000000	X063080	0.000000	0.000000
X042043	0.5000000	0.000000	X064065	0.5000000	0.000000
X043044	0.000000	0.000000	X064081	0.000000	0.000000
X044069	0.5000000	0.000000	X065066	0.5000000	0.000000
X045046	0.5000000	0.000000	X066067	0.5000000	0.000000
X045066	0.000000	0.000000	X066083	0.5000000	0.000000
X045058	0.5000000	0.000000	X067068	0.5000000	0.000000
X046067	0.5000000	0.000000	X067084	0.000000	0.000000
X046047	0.5000000	0.000000	X068069	0.5000000	0.000000
X047068	0.5000000	0.000000	X068085	0.000000	0.000000
X048049	1.000000	0.000000	X069086	0.5000000	0.000000
X049070	0.5000000	0.000000	X070074	0.5000000	0.000000
X049050	0.5000000	0.000000	X071075	1.000000	0.000000
X050051	1.000000	0.000000	X071072	1.000000	0.000000
X050070	0.5000000	0.000000	X072073	0.5000000	0.000000
X051071	0.000000	47.78550	X072105	0.5000000	0.000000
X052059	0.7500000	0.000000	X073074	0.5000000	0.000000
X052053	0.7500000	0.000000	X073108	0.5000000	0.000000
X053054	0.7500000	0.000000	X074109	0.5000000	0.000000
X053060	0.000000	1.668800	X075096	0.5000000	0.000000
X054055	0.5000000	0.000000	X075214	0.5000000	0.000000
X054061	0.2500000	0.000000	X076077	0.7500000	0.000000
X055062	0.000000	0.000000	X076087	0.7500000	0.000000
X055056	0.5000000	0.000000	X077078	0.5000000	0.000000
X056057	0.5000000	0.000000	X078087	0.2500000	0.000000
X056063	0.5000000	0.000000	X078079	0.5000000	0.000000
X057058	0.5000000	0.000000	X079088	0.000000	26.30260
X057064	0.5000000	0.000000	X079080	0.5000000	0.000000

X080089	0.5000000	0.000000	X100122	0.2500000	0.000000
X080081	0.5000000	0.000000	X101102	0.5000000	0.000000
X081082	0.5000000	0.000000	X101128	0.5000000	0.000000
X081090	0.5000000	0.000000	X102103	0.5000000	0.000000
X082083	0.5000000	0.000000	X102129	0.5000000	0.000000
X082091	0.5000000	0.000000	X103104	0.5000000	0.000000
X083092	0.000000	0.000000	X103130	0.5000000	0.000000
X083084	0.5000000	0.000000	X104131	0.5000000	0.000000
X084093	0.5000000	0.000000	X105106	0.5000000	0.000000
X084085	0.5000000	0.000000	X105214	0.5000000	0.000000
X085094	0.5000000	0.000000	X106107	0.5000000	0.000000
X085086	0.5000000	0.000000	X106110	1.000000	0.000000
X086095	0.5000000	0.000000	X107108	0.5000000	0.000000
X087097	0.000000	0.000000	X107133	0.5000000	0.000000
X087088	0.7500000	0.000000	X108109	0.5000000	0.000000
X088098	0.5000000	0.000000	X109132	1.000000	0.000000
X088089	0.5000000	0.000000	X110113	1.000000	0.000000
X089116	0.000000	12.83345	X110135	0.000000	31.83040
X089090	0.5000000	0.000000	X111112	0.5000000	0.000000
X090099	0.5000000	0.000000	X112114	0.5000000	0.000000
X090091	0.000000	0.000000	X113137	0.000000	13.41600
X091092	0.5000000	0.000000	X114217	0.5000000	0.000000
X091100	0.5000000	0.000000	X114116	0.5000000	0.000000
X092093	0.5000000	0.000000	X115117	1.000000	0.000000
X092101	0.5000000	0.000000	X116117	0.5000000	0.000000
X093094	0.5000000	0.000000	X116118	0.5000000	0.000000
X093102	0.000000	0.000000	X117139	0.000000	30.97680
X094095	0.5000000	0.000000	X117119	0.5000000	0.000000
X094103	0.000000	0.000000	X118122	0.5000000	0.000000
X095104	0.5000000	0.000000	X119120	0.5000000	0.000000
X096111	0.5000000	0.000000	X119123	0.5000000	0.000000
X096097	0.5000000	0.000000	X120121	0.5000000	0.000000
X097112	0.5000000	0.000000	X120124	0.5000000	0.000000
X097098	0.5000000	0.000000	X121140	0.5000000	0.000000
X098114	0.5000000	0.000000	X121125	0.000000	0.000000
X099100	0.5000000	0.000000	X122123	0.2500000	0.000000
X099118	0.5000000	0.000000	X122128	0.5000000	0.000000
X100101	0.2500000	0.000000	X123124	0.5000000	0.000000

X124125	0.5000000	0.000000	X149150	0.5000000	0.000000
X124219	0.000000	59.73370	X150151	1.000000	0.000000
X125141	0.5000000	0.000000	X150172	0.5000000	0.000000
X125126	0.5000000	0.000000	X151171	0.000000	0.000000
X126218	1.000000	0.000000	X151152	1.000000	0.000000
X126143	0.5000000	0.000000	X152153	1.000000	0.000000
X127144	0.000000	12.61362	X152170	0.000000	14.18570
X127219	1.000000	0.000000	X153168	1.000000	0.000000
X128129	0.5000000	0.000000	X154156	0.5000000	0.000000
X129130	0.5000000	0.000000	X154155	0.5000000	0.000000
X130131	0.5000000	0.000000	X155221	0.5000000	0.000000
X131219	0.5000000	0.000000	X156168	0.5000000	0.000000
X132133	0.000000	0.000000	X157161	0.5000000	0.000000
X132146	1.000000	0.000000	X158162	0.5000000	0.000000
X133134	0.5000000	0.000000	X159166	0.5000000	0.000000
X133148	0.5000000	0.000000	X159169	0.5000000	0.000000
X134149	0.5000000	0.000000	X159160	1.000000	0.000000
X134135	1.000000	0.000000	X160164	0.000000	15.48670
X135136	1.000000	0.000000	X160161	1.000000	0.000000
X136149	0.5000000	0.000000	X161162	0.5000000	0.000000
X136137	1.000000	0.000000	X162163	0.5000000	0.000000
X137138	1.000000	0.000000	X163164	0.5000000	0.000000
X138139	1.000000	0.000000	X163203	0.5000000	0.000000
X139140	1.000000	0.000000	X164165	0.5000000	0.000000
X140153	0.000000	0.000000	X164182	0.5000000	0.000000
X140141	0.5000000	0.000000	X165166	0.5000000	0.000000
X141142	0.5000000	0.000000	X165179	0.5000000	0.000000
X142154	0.5000000	0.000000	X166167	0.5000000	0.000000
X142143	0.5000000	0.000000	X167170	1.000000	0.000000
X143144	0.5000000	0.000000	X167178	0.5000000	0.000000
X144155	0.5000000	0.000000	X167169	0.5000000	0.000000
X144145	0.5000000	0.000000	X168169	0.5000000	0.000000
X145158	0.5000000	0.000000	X170175	1.000000	0.000000
X146186	0.5000000	0.000000	X171173	1.000000	0.000000
X146147	0.5000000	0.000000	X171175	1.000000	0.000000
X147148	0.5000000	0.000000	X172173	0.5000000	0.000000
X147183	0.5000000	0.000000	X172174	0.5000000	0.000000
X148184	0.5000000	0.000000	X173174	0.5000000	0.000000

X173195	0.000000	40.76120	X198200	0.000000	0.000000
X174190	0.5000000	0.000000	X199200	1.000000	0.000000
X175176	1.000000	0.000000	X200205	1.000000	0.000000
X176177	1.000000	0.000000	X201202	0.5000000	0.000000
X176196	0.000000	0.000000	X202203	0.5000000	0.000000
X177178	0.5000000	0.000000	X203204	0.5000000	0.000000
X177197	1.000000	0.000000	X204205	0.5000000	0.000000
X178179	0.5000000	0.000000	X204206	0.5000000	0.000000
X178199	0.000000	0.000000	X205206	0.5000000	0.000000
X179180	0.5000000	0.000000	X206207	0.5000000	0.000000
X180198	0.5000000	0.000000	X207208	0.5000000	0.000000
X180181	0.5000000	0.000000	X208212	0.5000000	0.000000
X181201	0.5000000	0.000000	X208209	0.5000000	0.000000
X181182	0.5000000	0.000000	X209212	0.5000000	0.000000
X182202	0.5000000	0.000000	X209210	0.5000000	0.000000
X183184	0.5000000	0.000000	X210211	0.5000000	0.000000
X183185	1.000000	0.000000	X211212	0.5000000	0.000000
X184190	0.5000000	0.000000	X047213	0.5000000	0.000000
X185190	0.000000	162836.1	X044213	0.5000000	0.000000
X185187	1.000000	0.000000	X214215	0.5000000	0.000000
X186189	0.5000000	0.000000	X111215	0.5000000	0.000000
X186207	0.5000000	0.000000	X215216	0.5000000	0.000000
X187191	0.000000	81.04480	X113216	1.000000	0.000000
X187188	1.000000	0.000000	X216217	0.5000000	0.000000
X188192	0.000000	0.000000	X115217	1.000000	0.000000
X188189	1.000000	0.000000	X127218	1.000000	0.000000
X189194	0.000000	73.56400	X145219	0.5000000	0.000000
X189211	0.5000000	0.000000	X156220	0.5000000	0.000000
X190191	1.000000	0.000000	X159220	0.5000000	0.000000
X191192	1.000000	0.000000	X157220	0.5000000	0.000000
X192193	1.000000	0.000000	X157221	0.5000000	0.000000
X193194	1.000000	0.000000	X158221	0.5000000	0.000000
X193195	1.000000	0.000000			
X194210	1.000000	0.000000			
X195196	1.000000	0.000000			
X196197	1.000000	0.000000			
X198199	1.000000	0.000000			
X198201	0.5000000	0.000000			

Row	Slack or Surplus	Dual Price
1	12186.10	-1.000000
2	0.000000	-163.3070
3	1.000000	0.000000
4	0.000000	-61.40000

5	0.5000000	0.000000	43	0.000000	-13.09700
6	0.000000	-62.31580	44	0.000000	-12.81950
7	0.000000	-76.16420	45	0.000000	-29.77660
8	0.5000000	0.000000	46	0.000000	0.000000
9	0.000000	0.000000	47	0.5000000	0.000000
10	0.000000	-25.91360	48	0.000000	-5.957550
11	0.000000	-30.77500	49	0.000000	-34.60800
12	0.000000	-40.03920	50	0.5000000	0.000000
13	0.2500000	0.000000	51	0.5000000	0.000000
14	0.000000	-79.68460	52	1.000000	0.000000
15	0.000000	-44.77850	53	0.000000	-32.23660
16	0.000000	-51.52480	54	0.5000000	0.000000
17	0.000000	-40.07550	55	0.5000000	0.000000
18	0.000000	-48.25540	56	0.000000	-28.12660
19	0.000000	-24.29920	57	0.5000000	0.000000
20	0.000000	-52.78110	58	0.000000	0.000000
21	0.000000	-23.37710	59	0.5000000	0.000000
22	0.000000	-55.51620	60	0.5000000	0.000000
23	0.000000	-49.29080	61	0.7500000	0.000000
24	0.5000000	0.000000	62	0.2500000	0.000000
25	0.5000000	0.000000	63	0.5000000	0.000000
26	1.000000	0.000000	64	0.000000	-0.3810E-01
27	0.000000	-135.7650	65	0.000000	0.000000
28	0.000000	-42.51710	66	0.000000	-21.23115
29	0.5000000	0.000000	67	0.5000000	0.000000
30	0.000000	-50.25120	68	0.000000	0.000000
31	0.7500000	0.000000	69	0.000000	-28.18560
32	0.5000000	0.000000	70	0.000000	-24.59530
33	0.5000000	0.000000	71	0.000000	-86.21975
34	0.2500000	0.000000	72	0.000000	-28.77240
35	0.000000	-31.73860	73	0.5000000	0.000000
36	0.000000	-256.0990	74	0.000000	0.000000
37	0.000000	-96.25640	75	0.000000	0.000000
38	0.000000	-35.99080	76	0.5000000	0.000000
39	0.000000	-34.38080	77	0.000000	-64.47200
40	1.000000	0.000000	78	0.2500000	0.000000
41	0.5000000	0.000000	79	0.2500000	0.000000
42	0.000000	0.000000	80	0.000000	-8.916700

81	0.5000000	0.000000	119	0.000000	-19.00720
82	0.5000000	0.000000	120	0.000000	-4.332600
83	0.000000	-4.697750	121	0.000000	-5.126800
84	0.000000	0.000000	122	0.000000	0.000000
85	0.5000000	0.000000	123	0.2500000	0.000000
86	0.5000000	0.000000	124	0.000000	-42.25730
87	0.000000	-1.573000	125	0.000000	0.000000
88	0.000000	-35.09320	126	0.5000000	0.000000
89	0.7500000	0.000000	127	0.5000000	0.000000
90	0.000000	-11.37555	128	0.000000	-49.05910
91	0.000000	0.000000	129	0.000000	-26.60300
92	0.000000	-12.28050	130	0.000000	-10.82060
93	0.5000000	0.000000	131	0.000000	-0.7702000
94	0.000000	0.000000	132	0.000000	-3.097200
95	0.000000	-14.30150	133	0.000000	-75.67990
96	0.000000	-0.4121000	134	0.000000	-27.12470
97	0.000000	-8.259850	135	0.000000	-9.681900
98	0.5000000	0.000000	136	0.000000	-15.81550
99	0.000000	-23.57735	137	0.5000000	0.000000
100	0.000000	-34.08020	138	0.000000	-22.90160
101	0.000000	-5.916200	139	0.000000	-39.17770
102	0.2500000	0.000000	140	0.000000	-28.06380
103	0.5000000	0.000000	141	0.5000000	0.000000
104	0.5000000	0.000000	142	0.000000	-37.97450
105	0.000000	-57.04480	143	0.000000	0.000000
106	0.000000	-41.70090	144	0.000000	-15.76630
107	0.000000	0.000000	145	0.5000000	0.000000
108	0.000000	0.000000	146	0.000000	-52.04190
109	0.000000	-18.89850	147	0.5000000	0.000000
110	0.000000	-71.30590	148	0.000000	-36.90355
111	1.000000	0.000000	149	0.000000	-28.13600
112	0.000000	-25.36800	150	0.000000	-48.87070
113	0.000000	-2.889700	151	0.5000000	0.000000
114	0.000000	-37.40430	152	0.000000	-33.34820
115	0.5000000	0.000000	153	1.000000	0.000000
116	0.000000	-30.57760	154	0.000000	-29.31790
117	0.5000000	0.000000	155	0.000000	-23.51810
118	0.000000	-18.72940	156	0.000000	-52.80652

157	0.000000	-27.46740	195	0.000000	-26.31300
158	0.000000	-9.504000	196	0.000000	-62.19550
159	0.000000	-36.96800	197	0.000000	0.000000
160	1.000000	0.000000	198	0.000000	-75.28340
161	0.000000	-38.77030	199	0.5000000	0.000000
162	0.5000000	0.000000	200	0.000000	-39.36150
163	0.000000	0.000000	201	0.000000	-35.98670
164	0.000000	0.000000	202	0.000000	-37.65800
165	0.5000000	0.000000	203	0.000000	0.000000
166	0.000000	0.000000	204	0.000000	-10.53070
167	0.000000	-14.44095	205	0.000000	0.000000
168	1.000000	0.000000	206	0.5000000	0.000000
169	0.5000000	0.000000	207	0.000000	-122.4374
170	0.000000	-51.83450	208	0.000000	-116.8968
171	0.000000	-38.08220	209	0.000000	0.000000
172	0.000000	-35.71000	210	0.000000	0.000000
173	0.000000	0.000000	211	0.5000000	0.000000
174	0.000000	0.000000	212	0.000000	-156.7050
175	0.000000	-25.93725	213	0.000000	-179.0000
176	1.000000	0.000000	214	0.000000	0.000000
177	1.000000	0.000000	215	0.000000	-29.30120
178	0.5000000	0.000000	216	0.000000	0.000000
179	0.000000	0.000000	217	0.5000000	0.000000
180	0.000000	-40.51340	218	0.000000	-29.30110
181	0.000000	-29.42435	219	0.000000	-15.48000
182	0.000000	0.000000	220	1.000000	0.000000
183	0.000000	-32.75940	221	0.000000	0.000000
184	0.000000	0.000000	222	0.000000	0.000000
185	0.000000	-107.4800	223	0.000000	-52.73660
186	0.000000	-53.23270	224	0.5000000	0.000000
187	0.000000	0.000000	225	0.000000	0.000000
188	0.000000	-47.25570	226	0.000000	-24.13500
189	0.000000	-52.05260	227	0.000000	-56.18820
190	0.5000000	0.000000	228	0.000000	-172.4110
191	0.5000000	0.000000	229	0.000000	0.000000
192	0.000000	-53.61850	230	0.000000	0.000000
193	0.000000	-56.27360	231	0.000000	-102.7594
194	1.000000	0.000000	232	0.000000	-57.67460

233	0.000000	-1.541100	271	0.000000	-30.52525
234	0.2500000	0.000000	272	0.5000000	0.000000
235	0.000000	0.000000	273	0.000000	-76.54500
236	0.000000	-18.90970	274	0.5000000	0.000000
237	0.000000	0.000000	275	0.000000	-36.21780
238	0.000000	-28.48210	276	0.000000	-3.504300
239	0.000000	0.000000	277	0.5000000	0.000000
240	0.5000000	0.000000	278	0.000000	-12.92120
241	0.000000	-37.41970	279	0.000000	-32.73350
242	0.5000000	0.000000	280	0.000000	0.000000
243	0.000000	-50.57580	281	0.000000	-32.79620
244	0.000000	-18.80020	282	0.000000	-26.63570
245	0.000000	-3.618000	283	0.000000	-38.83650
246	0.5000000	0.000000	284	0.000000	-31.74300
247	0.000000	-62.62150	285	0.000000	-38.58690
248	0.000000	0.000000	286	0.000000	0.000000
249	0.000000	-79.79390	287	0.000000	-18.64565
250	0.000000	0.000000	288	0.000000	-39.87670
251	1.000000	0.000000	289	0.000000	-9.491100
252	0.000000	-2.887400	290	0.000000	0.000000
253	0.000000	-21.79540	291	0.000000	0.000000
254	0.000000	-39.53330	292	0.000000	-71.62590
255	0.7500000	0.000000	293	1.000000	0.000000
256	0.000000	0.000000	294	0.000000	-13.63410
257	0.000000	-70.82600	295	0.000000	-67.67440
258	0.000000	0.000000	296	0.000000	0.000000
259	0.000000	-39.27330	297	0.000000	-21.14590
260	0.000000	0.000000	298	0.5000000	0.000000
261	0.000000	-36.27400	299	0.2500000	0.000000
262	0.000000	-3.684900	300	0.000000	-5.518900
263	0.000000	-33.90100	301	0.000000	-8.632900
264	0.5000000	0.000000	302	0.000000	0.000000
265	0.000000	-14.99090	303	0.000000	-24.59100
266	0.5000000	0.000000	304	0.000000	-26.80865
267	0.000000	-2.575500	305	0.000000	-4.172900
268	0.000000	-17.47930	306	0.000000	-16.93720
269	0.000000	-52.64425	307	0.000000	-7.636700
270	1.000000	0.000000	308	0.000000	-42.35800

309	0.5000000	0.000000	347	0.000000	-14.25170
310	0.000000	0.000000	348	0.5000000	0.000000
311	0.000000	-22.16525	349	1.000000	0.000000
312	0.000000	-0.8946000	350	0.000000	0.000000
313	0.5000000	0.000000	351	0.000000	0.000000
314	0.000000	-37.45870	352	0.000000	0.000000
315	0.000000	-18.97330	353	0.000000	0.000000
316	0.000000	-36.81100	354	0.000000	-66.58930
317	0.000000	0.000000	355	0.5000000	0.000000
318	0.000000	-16.63265	356	0.5000000	0.000000
319	0.000000	0.000000	357	1.000000	0.000000
320	0.000000	-13.82695	358	0.5000000	0.000000
321	0.000000	0.000000	359	1.000000	0.000000
322	0.000000	-26.81720	360	0.000000	0.000000
323	0.5000000	0.000000	361	1.000000	0.000000
324	0.000000	0.000000	362	0.5000000	0.000000
325	0.000000	0.000000	363	0.000000	0.000000
326	0.000000	0.000000	364	0.000000	-27.31892
327	0.000000	0.000000	365	0.000000	-4.704280
328	0.5000000	0.000000	366	0.000000	0.000000
329	0.000000	-54.74260	367	0.000000	-11.89810
330	0.000000	0.000000	368	0.000000	0.000000
331	0.5000000	0.000000	369	0.000000	-54.78245
332	0.000000	0.000000	370	0.000000	0.000000
333	0.000000	0.000000	371	0.000000	-44.83620
334	0.000000	0.000000	372	0.5000000	0.000000
335	0.000000	-42.31810	373	0.000000	-6.507400
336	0.5000000	0.000000	374	0.000000	-9.346800
337	0.000000	-37.83960	375	1.000000	0.000000
338	0.000000	0.000000	376	0.000000	0.000000
339	0.5000000	0.000000	377	0.000000	-11.84010
340	0.000000	-26.69150	378	0.000000	-32.33920
341	0.000000	-23.96520	379	0.000000	0.000000
342	0.000000	-36.84300	380	0.000000	0.000000
343	0.000000	0.000000	381	1.000000	0.000000
344	0.000000	0.000000	382	0.000000	-17.10080
345	0.2500000	0.000000	383	0.5000000	0.000000
346	0.000000	-18.95820	384	0.000000	-39.22800

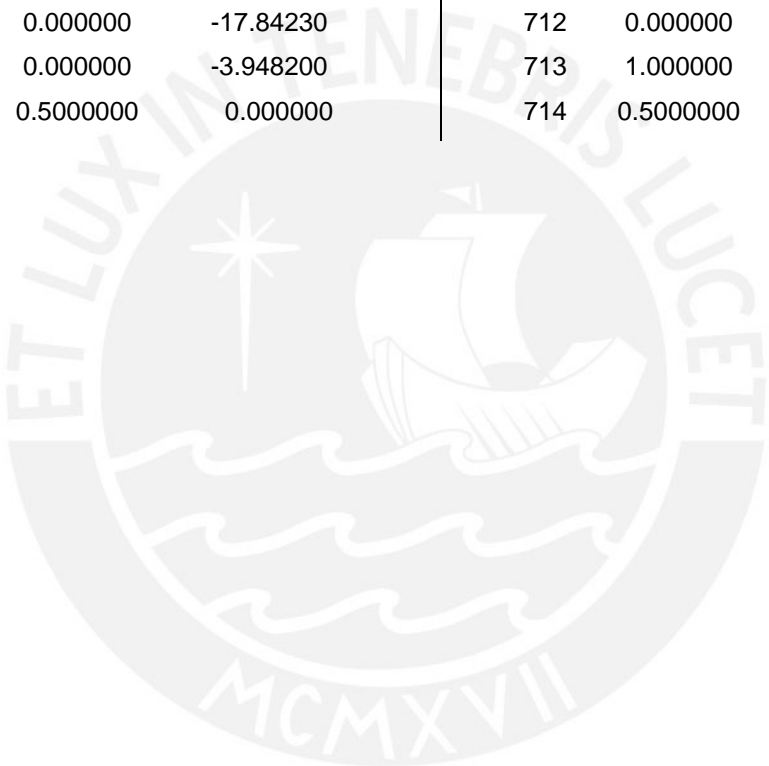
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386	0.000000	0.000000	424	0.000000	0.000000
387	0.000000	0.000000	425	0.000000	0.000000
388	0.000000	-23.69035	426	0.000000	-136.2534
389	0.5000000	0.000000	427	0.000000	-67.47560
390	0.000000	0.000000	428	0.000000	0.000000
391	0.000000	-12.10700	429	0.000000	0.000000
392	1.000000	0.000000	430	0.000000	-11.08545
393	1.000000	0.000000	431	0.000000	0.000000
394	0.000000	-69.34740	432	0.000000	-12.46775
395	0.5000000	0.000000	433	0.000000	-42.47325
396	0.000000	-12.65685	434	0.000000	0.000000
397	1.000000	0.000000	435	0.000000	0.000000
398	0.000000	-35.63340	436	0.000000	0.000000
399	0.5000000	0.000000	437	0.000000	-28.13670
400	0.000000	-0.6206000	438	0.5000000	0.000000
401	0.000000	-5.729500	439	0.5000000	0.000000
402	0.000000	-33.26715	440	0.000000	-37.49960
403	0.000000	0.000000	441	0.000000	-71.74410
404	0.000000	0.000000	442	0.000000	-45.65740
405	0.5000000	0.000000	443	0.000000	-18.77480
406	0.000000	-36.12800	444	0.5000000	0.000000
407	0.000000	0.000000	445	0.5000000	0.000000
408	0.000000	-70.34240	446	0.000000	0.000000
409	0.000000	0.000000	447	0.5000000	0.000000
410	0.000000	-60.31300	448	0.000000	0.000000
411	0.000000	0.000000	449	0.000000	0.000000
412	0.5000000	0.000000	450	0.2500000	0.000000
413	1.000000	0.000000	451	0.000000	-141.7848
414	1.000000	0.000000	452	0.000000	-46.54640
415	1.000000	0.000000	453	0.000000	0.000000
416	1.000000	0.000000	454	0.000000	0.000000
417	1.000000	0.000000	455	0.000000	0.000000
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419	0.000000	-25.17040	457	0.000000	0.000000
420	0.000000	-2.527200	458	0.5000000	0.000000
421	1.000000	0.000000	459	0.000000	0.000000
422	1.000000	0.000000	460	0.5000000	0.000000

461	1.000000	0.000000	499	0.000000	-3.443100
462	1.000000	0.000000	500	0.000000	0.000000
463	0.5000000	0.000000	501	0.000000	-1.323050
464	0.000000	-103.6180	502	0.000000	-17.41710
465	0.000000	-31.65370	503	0.000000	0.000000
466	0.000000	0.000000	504	0.000000	0.000000
467	0.000000	-24.33230	505	0.000000	-42.33330
468	0.000000	-29.85640	506	0.000000	0.000000
469	0.000000	0.000000	507	0.000000	-20.52050
470	0.2500000	0.000000	508	0.5000000	0.000000
471	0.000000	-22.73580	509	0.000000	-35.52210
472	0.000000	-47.29350	510	0.000000	-46.37510
473	0.5000000	0.000000	511	0.5000000	0.000000
474	1.000000	0.000000	512	0.000000	-23.33940
475	0.000000	0.000000	513	0.000000	-29.44370
476	0.5000000	0.000000	514	0.2500000	0.000000
477	0.000000	-33.86490	515	0.5000000	0.000000
478	0.000000	0.000000	516	0.000000	0.000000
479	0.000000	-20.18120	517	0.000000	-36.87590
480	0.000000	0.000000	518	0.000000	-12.87165
481	0.5000000	0.000000	519	0.5000000	0.000000
482	0.000000	0.000000	520	0.000000	0.000000
483	0.000000	-14.11285	521	0.000000	0.000000
484	0.000000	-71.42080	522	0.000000	-17.12560
485	0.5000000	0.000000	523	0.7500000	0.000000
486	0.000000	-33.03835	524	0.2500000	0.000000
487	0.000000	-75.97660	525	0.5000000	0.000000
488	0.000000	-25.72950	526	0.000000	-4.541400
489	0.000000	0.000000	527	0.000000	-24.74630
490	0.2500000	0.000000	528	0.000000	-22.89020
491	1.000000	0.000000	529	0.000000	0.000000
492	0.000000	-4.918300	530	0.000000	-0.7317000
493	0.000000	-28.11960	531	0.000000	-6.431700
494	0.000000	-34.88330	532	0.000000	-4.141350
495	0.000000	-34.39840	533	0.000000	0.000000
496	0.2500000	0.000000	534	0.000000	-34.30125
497	0.000000	-7.426200	535	0.000000	-29.02150
498	0.000000	0.000000	536	0.2500000	0.000000

537	0.2500000	0.000000	575	0.000000	0.000000
538	0.000000	-6.421000	576	0.000000	-24.64540
539	0.000000	0.000000	577	0.000000	0.000000
540	0.000000	0.000000	578	0.000000	0.000000
541	0.000000	0.000000	579	0.000000	0.000000
542	0.5000000	0.000000	580	0.5000000	0.000000
543	0.000000	-24.64570	581	0.000000	-29.73525
544	0.000000	0.000000	582	0.000000	0.000000
545	0.5000000	0.000000	583	0.000000	-10.21440
546	0.000000	-50.29190	584	0.000000	-35.12720
547	0.000000	0.000000	585	1.000000	0.000000
548	0.000000	-38.83650	586	0.000000	-30.88310
549	1.000000	0.000000	587	0.000000	-31.31090
550	0.5000000	0.000000	588	0.000000	-27.07458
551	0.000000	0.000000	589	0.000000	0.000000
552	1.000000	0.000000	590	0.000000	0.000000
553	0.000000	0.000000	591	0.000000	0.000000
554	0.000000	-24.03410	592	0.000000	0.000000
555	0.000000	0.000000	593	0.5000000	0.000000
556	0.5000000	0.000000	594	1.000000	0.000000
557	0.2500000	0.000000	595	0.000000	-29.79080
558	0.2500000	0.000000	596	0.000000	0.000000
559	0.000000	0.000000	597	0.000000	-80.63000
560	0.000000	-19.75490	598	0.000000	-9.024700
561	0.000000	-44.15480	599	0.000000	0.000000
562	0.000000	0.000000	600	0.000000	-58.39095
563	0.000000	-25.01440	601	1.000000	0.000000
564	0.000000	-33.21240	602	0.5000000	0.000000
565	0.000000	-49.68370	603	0.000000	-25.64670
566	0.000000	-43.86790	604	0.000000	-36.01920
567	1.000000	0.000000	605	0.000000	-29.99740
568	0.000000	-0.6051000	606	0.000000	0.000000
569	0.5000000	0.000000	607	0.5000000	0.000000
570	0.000000	-12.28120	608	0.000000	-5.527350
571	1.000000	0.000000	609	1.000000	0.000000
572	0.000000	0.000000	610	0.000000	-31.67930
573	0.000000	-46.73600	611	1.000000	0.000000
574	0.000000	-49.64020	612	0.000000	-36.80630

613	0.000000	0.000000	651	0.5000000	0.000000
614	0.000000	-5.940750	652	0.000000	0.000000
615	0.000000	0.000000	653	0.000000	-22.80260
616	0.000000	-0.2910000	654	0.2500000	0.000000
617	0.5000000	0.000000	655	0.000000	-11.31700
618	0.000000	0.000000	656	0.000000	-60.49340
619	1.000000	0.000000	657	0.000000	0.000000
620	0.000000	-296.7680	658	0.5000000	0.000000
621	1.000000	0.000000	659	0.000000	-33.50180
622	1.000000	0.000000	660	0.000000	0.000000
623	1.000000	0.000000	661	0.000000	-34.06170
624	1.000000	0.000000	662	0.7500000	0.000000
625	0.000000	-3.299000	663	0.5000000	0.000000
626	0.000000	-34.95680	664	0.5000000	0.000000
627	1.000000	0.000000	665	0.000000	0.000000
628	0.000000	-117.9320	666	0.000000	0.000000
629	0.000000	-37.09730	667	0.2500000	0.000000
630	0.000000	-11.27730	668	0.2500000	0.000000
631	0.5000000	0.000000	669	0.000000	0.000000
632	0.000000	-29.94760	670	0.5000000	0.000000
633	0.000000	-68.59510	671	0.5000000	0.000000
634	0.000000	-29.09400	672	0.000000	0.000000
635	0.000000	-77.24940	673	0.5000000	0.000000
636	0.000000	0.000000	674	0.5000000	0.000000
637	0.000000	-117.3560	675	0.000000	-8.531000
638	0.5000000	0.000000	676	0.000000	-22.08240
639	0.000000	-30.16920	677	0.000000	-20.12730
640	0.000000	-59.68980	678	0.000000	0.000000
641	0.000000	0.000000	679	0.000000	0.000000
642	0.000000	-46.43945	680	0.000000	-29.95380
643	0.5000000	0.000000	681	0.000000	-19.39780
644	0.000000	0.000000	682	0.000000	-12.95360
645	0.000000	-19.33655	683	0.2500000	0.000000
646	0.000000	-25.73930	684	0.000000	-25.59275
647	0.000000	-27.15800	685	0.5000000	0.000000
648	0.000000	-2.421400	686	0.000000	0.000000
649	0.000000	-6.991900	687	0.000000	0.000000
650	0.5000000	0.000000	688	0.5000000	0.000000

689	0.5000000	0.000000	702	0.000000	0.000000
690	0.000000	-10.96460	703	0.000000	0.000000
691	0.2500000	0.000000	704	1.000000	0.000000
692	0.2500000	0.000000	705	0.000000	-15.74108
693	0.000000	-36.04170	706	1.000000	0.000000
694	0.000000	-1.417000	707	0.000000	-39.82950
695	0.5000000	0.000000	708	1.000000	0.000000
696	0.000000	-38.62500	709	1.000000	0.000000
697	0.5000000	0.000000	710	0.5000000	0.000000
698	0.000000	0.000000	711	0.5000000	0.000000
699	0.000000	-17.84230	712	0.000000	-22.70680
700	0.000000	-3.948200	713	1.000000	0.000000
701	0.5000000	0.000000	714	0.5000000	0.000000



Mapa 12

Global optimal solution found.

Objective value: 11345.73

Infeasibilities: 0.000000

Total solver iterations: 218

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X016017	1.000000	0.000000
X001011	1.000000	0.000000	X017018	1.000000	0.000000
X002003	0.000000	0.000000	X017026	0.000000	117.3554
X002010	1.000000	0.000000	X018028	0.000000	19.68200
X003004	1.000000	0.000000	X018019	1.000000	0.000000
X003008	1.000000	0.000000	X019020	1.000000	0.000000
X004005	1.000000	0.000000	X020025	1.000000	0.000000
X005006	1.000000	0.000000	X020024	1.000000	0.000000
X005021	1.000000	0.000000	X021022	1.000000	0.000000
X006007	1.000000	0.000000	X022023	1.000000	0.000000
X006020	0.000000	123.6888	X023024	1.000000	0.000000
X007008	1.000000	0.000000	X025029	1.000000	0.000000
X007019	0.000000	42.23470	X026027	1.000000	0.000000
X008009	0.000000	114.8615	X027030	0.000000	1.446900
X008016	1.000000	0.000000	X027028	1.000000	0.000000
X009010	1.000000	0.000000	X028029	1.000000	0.000000
X009014	1.000000	0.000000	X029030	0.000000	3.189000
X010013	0.000000	0.000000	X030034	1.000000	0.000000
X011012	0.000000	0.000000	X030035	1.000000	0.000000
X011041	1.000000	0.000000	X031032	0.000000	0.000000
X012013	1.000000	0.000000	X031033	1.000000	0.000000
X012038	1.000000	0.000000	X032038	0.000000	15.93775
X013032	1.000000	0.000000	X032044	1.000000	0.000000
X013014	0.000000	57.74225	X033044	0.000000	84.15580
X014015	1.000000	0.000000	X033034	1.000000	0.000000
X014031	1.000000	0.000000	X034045	0.000000	55.84465
X015026	1.000000	0.000000	X035036	1.000000	0.000000
X015016	0.000000	18.73830	X035062	0.000000	36.73250
			X036037	1.000000	0.000000

X036061	0.000000	54.19725	X060061	1.000000	0.000000
X037046	0.5000000	0.000000	X060163	1.000000	0.000000
X037048	0.5000000	0.000000	X061062	1.000000	0.000000
X038039	0.000000	0.000000	X062063	1.000000	0.000000
X038040	1.000000	0.000000	X029063	0.000000	139.6913
X039040	1.000000	0.000000	X063163	1.000000	0.000000
X039043	1.000000	0.000000	X064065	1.000000	0.000000
X039044	0.000000	34.54095	X065067	1.000000	0.000000
X040041	0.000000	0.000000	X066067	1.000000	0.000000
X041042	1.000000	0.000000	X067072	0.000000	0.000000
X042043	0.5000000	0.000000	X068069	1.000000	0.000000
X042050	0.5000000	0.000000	X068070	0.000000	1.167300
X043045	0.5000000	0.000000	X068080	0.000000	85.10340
X044045	1.000000	0.000000	X069070	1.000000	0.000000
X045046	0.5000000	0.000000	X069079	1.000000	0.000000
X046047	1.000000	0.000000	X070071	1.000000	0.000000
X047048	0.5000000	0.000000	X070078	0.000000	39.82990
X047049	0.5000000	0.000000	X071075	1.000000	0.000000
X048054	1.000000	0.000000	X071072	0.000000	110.2563
X049050	0.5000000	0.000000	X072074	1.000000	0.000000
X049052	1.000000	0.000000	X072073	1.000000	0.000000
X050051	1.000000	0.000000	X073086	1.000000	0.000000
X051052	0.000000	86.45570	X073095	0.000000	23.06160
X051068	1.000000	0.000000	X074085	1.000000	0.000000
X052053	1.000000	0.000000	X074077	0.000000	265.9917
X053054	0.000000	67.58565	X075076	1.000000	0.000000
X053055	1.000000	0.000000	X076077	1.000000	0.000000
X054060	0.000000	0.000000	X077078	1.000000	0.000000
X054056	1.000000	0.000000	X078079	1.000000	0.000000
X055056	1.000000	0.000000	X079081	0.000000	0.000000
X055057	0.000000	0.000000	X080081	1.000000	0.000000
X056058	0.000000	0.000000	X080104	1.000000	0.000000
X057058	1.000000	0.000000	X081082	1.000000	0.000000
X057064	1.000000	0.000000	X082106	0.000000	92.10840
X058064	0.000000	13.96150	X082083	1.000000	0.000000
X058059	1.000000	0.000000	X083107	0.000000	53.18540
X059060	0.000000	40.46705	X083084	1.000000	0.000000
X059164	1.000000	0.000000	X084102	1.000000	0.000000

X084085	0.000000	103.3883	X108153	0.000000	56.52240
X085097	1.000000	0.000000	X109110	1.000000	0.000000
X086095	1.000000	0.000000	X109111	0.000000	20.36110
X086087	0.000000	0.000000	X110146	0.000000	82.30370
X087088	1.000000	0.000000	X111146	1.000000	0.000000
X087094	1.000000	0.000000	X111112	1.000000	0.000000
X088089	1.000000	0.000000	X112128	0.000000	20.61520
X089091	0.000000	0.000000	X113115	1.000000	0.000000
X089090	1.000000	0.000000	X114115	1.000000	0.000000
X090118	1.000000	0.000000	X114116	1.000000	0.000000
X091092	1.000000	0.000000	X115124	0.000000	28.86700
X091117	1.000000	0.000000	X116122	1.000000	0.000000
X092116	0.000000	68.71440	X117118	1.000000	0.000000
X092093	1.000000	0.000000	X117122	0.000000	0.000000
X093094	1.000000	0.000000	X118119	0.000000	0.000000
X093114	0.000000	51.17420	X119122	1.000000	0.000000
X094113	0.000000	28.18670	X119120	1.000000	0.000000
X095096	1.000000	0.000000	X120121	1.000000	0.000000
X096097	0.000000	41.68950	X120138	0.000000	39.15950
X096113	1.000000	0.000000	X121164	1.000000	0.000000
X097098	1.000000	0.000000	X121123	1.000000	0.000000
X098099	1.000000	0.000000	X123124	1.000000	0.000000
X098102	0.000000	105.0938	X123127	0.000000	1.102100
X099100	1.000000	0.000000	X124125	1.000000	0.000000
X099125	0.000000	76.28330	X125126	1.000000	0.000000
X100101	1.000000	0.000000	X100126	0.000000	177.4380
X101102	0.000000	0.000000	X126127	1.000000	0.000000
X101112	1.000000	0.000000	X127128	1.000000	0.000000
X102103	1.000000	0.000000	X128129	1.000000	0.000000
X103109	1.000000	0.000000	X129130	1.000000	0.000000
X103111	0.000000	77.37410	X129131	1.000000	0.000000
X104105	1.000000	0.000000	X130145	0.000000	28.81570
X104150	0.000000	0.000000	X130132	1.000000	0.000000
X105106	1.000000	0.000000	X131133	1.000000	0.000000
X105151	0.000000	59.71550	X131164	0.000000	21.48450
X106107	1.000000	0.000000	X132135	1.000000	0.000000
X107108	1.000000	0.000000	X132134	0.000000	123.5080
X108110	1.000000	0.000000	X133134	1.000000	0.000000

X133164	0.000000	52.53650	X161162	1.000000	0.000000
X134138	1.000000	0.000000	X066163	0.000000	37.06350
X135136	1.000000	0.000000	X065164	0.000000	14.30160
X135137	0.000000	14.68790	X066164	1.000000	0.000000
X136145	1.000000	0.000000			
X136140	0.000000	34.58720	Row	Slack or Surplus	Dual Price
X137140	1.000000	0.000000	1	11345.73	-1.000000
X137139	1.000000	0.000000	2	0.000000	-36.23425
X138139	1.000000	0.000000	3	0.000000	-80.47630
X139142	1.000000	0.000000	4	1.000000	0.000000
X140141	1.000000	0.000000	5	0.000000	-2.624400
X141142	1.000000	0.000000	6	0.000000	-51.73540
X142144	0.000000	65.55060	7	1.000000	0.000000
X143144	1.000000	0.000000	8	0.000000	0.000000
X143145	1.000000	0.000000	9	0.000000	-43.28715
X143162	1.000000	0.000000	10	0.000000	-38.43945
X144161	1.000000	0.000000	11	0.000000	-38.33005
X145163	0.000000	34.81190	12	0.000000	-13.48810
X146147	1.000000	0.000000	13	1.000000	0.000000
X147149	0.000000	0.000000	14	0.000000	-52.78030
X147156	1.000000	0.000000	15	0.000000	-49.63500
X110149	1.000000	0.000000	16	0.000000	0.000000
X149154	1.000000	0.000000	17	0.000000	-41.97210
X150151	1.000000	0.000000	18	0.000000	0.000000
X150157	1.000000	0.000000	19	1.000000	0.000000
X151152	1.000000	0.000000	20	0.000000	0.000000
X152159	1.000000	0.000000	21	0.000000	-44.48710
X152153	0.000000	0.000000	22	0.000000	0.000000
X153154	1.000000	0.000000	23	0.000000	-49.12360
X153155	1.000000	0.000000	24	0.000000	0.000000
X154156	0.000000	0.000000	25	0.000000	-41.24320
X148155	1.000000	0.000000	26	0.000000	-37.08710
X148156	1.000000	0.000000	27	0.000000	-8.630100
X157158	1.000000	0.000000	28	0.000000	-40.28480
X157159	0.000000	0.000000	29	0.000000	-44.48710
X158160	1.000000	0.000000	30	0.000000	0.000000
X159160	1.000000	0.000000	31	0.000000	-54.92210
X160161	0.000000	0.000000	32	0.000000	-22.52245

33	0.000000	-26.76805	71	0.000000	-7.447400
34	0.000000	-28.43405	72	0.000000	-99.00300
35	0.000000	-30.50345	73	0.000000	-7.249000
36	0.000000	-48.82335	74	0.000000	0.000000
37	0.000000	-25.67085	75	0.000000	-47.25450
38	0.000000	-17.46110	76	0.000000	-38.15870
39	0.000000	-33.24630	77	0.000000	-9.263600
40	0.000000	-12.67095	78	0.000000	-48.72180
41	0.000000	-32.39645	79	0.000000	-1.422300
42	0.000000	-13.76725	80	0.000000	-18.45560
43	0.000000	-48.97085	81	0.000000	0.000000
44	0.000000	-43.30315	82	0.000000	-44.85690
45	0.000000	-5.237550	83	0.000000	-12.39150
46	0.000000	0.000000	84	0.000000	-33.79970
47	0.000000	-28.06340	85	0.000000	-50.50030
48	0.000000	-33.86295	86	0.000000	0.000000
49	0.000000	-24.69160	87	0.000000	-49.09510
50	0.000000	-18.76205	88	0.000000	-2.617200
51	0.000000	-42.47220	89	0.000000	-52.73160
52	0.000000	0.000000	90	0.000000	0.000000
53	0.000000	0.000000	91	0.000000	-49.99460
54	0.000000	-18.55575	92	0.000000	0.000000
55	0.000000	0.000000	93	0.000000	-51.29700
56	0.000000	-40.48440	94	0.000000	-17.74740
57	0.000000	-2.749100	95	0.000000	-4.673400
58	0.000000	-52.84820	96	0.000000	-18.29480
59	0.000000	0.000000	97	0.000000	-30.57710
60	0.000000	-50.89760	98	0.000000	0.000000
61	0.000000	0.000000	99	0.000000	-42.74250
62	0.000000	-142.7494	100	1.000000	0.000000
63	1.000000	0.000000	101	0.000000	-33.84790
64	0.000000	0.000000	102	0.000000	-23.52120
65	0.000000	-38.85980	103	0.000000	-48.46960
66	0.000000	0.000000	104	0.000000	-45.55530
67	0.000000	-84.77920	105	0.000000	0.000000
68	0.000000	-41.84840	106	0.000000	-35.00070
69	0.000000	0.000000	107	0.000000	0.000000
70	0.000000	-20.74340	108	0.000000	-62.96210

109	0.000000	0.000000	147	0.000000	-56.33560
110	0.000000	-48.59220	148	0.000000	-44.96525
111	1.000000	0.000000	149	0.000000	-35.83450
112	0.000000	-15.18410	150	0.000000	-146.4878
113	0.000000	-52.66270	151	0.000000	0.000000
114	0.000000	-3.663500	152	0.000000	-77.78845
115	0.000000	-49.81310	153	0.000000	-8.456250
116	0.000000	0.000000	154	1.000000	0.000000
117	0.000000	-51.67240	155	1.000000	0.000000
118	0.000000	-3.006300	156	1.000000	0.000000
119	1.000000	0.000000	157	1.000000	0.000000
120	0.000000	-54.85320	158	0.000000	-10.00805
121	0.000000	-52.24700	159	1.000000	0.000000
122	0.000000	0.000000	160	0.000000	0.000000
123	0.000000	-56.18050	161	0.000000	-15.10370
124	0.000000	0.000000	162	1.000000	0.000000
125	0.000000	-53.69640	163	1.000000	0.000000
126	0.000000	-32.82920	164	1.000000	0.000000
127	0.000000	-53.87370	165	0.000000	0.000000
128	0.000000	-52.24670	166	1.000000	0.000000
129	1.000000	0.000000	167	0.000000	0.000000
130	0.000000	-30.06340	168	0.000000	-10.82090
131	0.000000	-53.78190	169	2.000000	0.000000
132	1.000000	0.000000	170	0.000000	-48.07020
133	0.000000	-77.74340	171	0.000000	-30.84350
134	0.000000	-23.84140	172	0.000000	-46.92070
135	0.000000	-15.81850	173	0.000000	-53.03790
136	0.000000	-36.90340	174	0.000000	-47.95650
137	0.000000	-51.15520	175	0.000000	0.000000
138	0.000000	-96.37550	176	0.000000	0.000000
139	0.000000	0.000000	177	0.000000	0.000000
140	0.000000	-28.67680	178	0.000000	0.000000
141	0.000000	-1.424600	179	1.000000	0.000000
142	0.000000	-6.969400	180	0.000000	-11.53720
143	0.000000	-23.50100	181	0.000000	0.000000
144	0.000000	-7.638400	182	0.000000	0.000000
145	0.000000	-72.70210	183	1.000000	0.000000
146	0.000000	-25.76740	184	1.000000	0.000000

185	1.000000	0.000000	223	1.000000	0.000000
186	0.5000000	0.000000	224	0.000000	-23.23580
187	0.000000	0.000000	225	0.000000	-59.68590
188	1.000000	0.000000	226	0.000000	0.000000
189	1.000000	0.000000	227	0.000000	0.000000
190	0.000000	-6.056200	228	1.000000	0.000000
191	0.5000000	0.000000	229	0.000000	0.000000
192	0.5000000	0.000000	230	0.000000	0.000000
193	0.000000	0.000000	231	0.000000	-20.23080
194	1.000000	0.000000	232	0.000000	0.000000
195	0.000000	0.000000	233	1.000000	0.000000
196	0.5000000	0.000000	234	0.000000	0.000000
197	0.000000	0.000000	235	1.000000	0.000000
198	0.000000	0.000000	236	0.000000	0.000000
199	0.000000	0.000000	237	0.000000	-51.29920
200	0.000000	0.000000	238	0.000000	0.000000
201	0.000000	-0.2026500	239	0.000000	-46.17520
202	0.000000	0.000000	240	0.000000	0.000000
203	0.000000	0.000000	241	0.000000	0.000000
204	1.000000	0.000000	242	1.000000	0.000000
205	1.000000	0.000000	243	1.000000	0.000000
206	0.000000	0.000000	244	0.000000	-9.278900
207	1.000000	0.000000	245	0.000000	0.000000
208	0.000000	-46.50620	246	0.000000	0.000000
209	1.000000	0.000000	247	1.000000	0.000000
210	0.000000	-28.50055	248	1.000000	0.000000
211	0.000000	0.000000	249	1.000000	0.000000
212	0.000000	0.000000	250	0.000000	0.000000
213	0.000000	0.000000	251	0.000000	0.000000
214	1.000000	0.000000	252	1.000000	0.000000
215	0.000000	0.000000	253	1.000000	0.000000
216	1.000000	0.000000	254	1.000000	0.000000
217	0.000000	-32.61455	255	0.000000	0.000000
218	1.000000	0.000000	256	0.000000	0.000000
219	1.000000	0.000000	257	1.000000	0.000000
220	1.000000	0.000000	258	1.000000	0.000000
221	1.000000	0.000000	259	1.000000	0.000000
222	1.000000	0.000000	260	1.000000	0.000000

261	1.000000	0.000000	299	0.000000	0.000000
262	0.000000	0.000000	300	0.000000	0.000000
263	0.000000	0.000000	301	1.000000	0.000000
264	1.000000	0.000000	302	1.000000	0.000000
265	0.000000	0.000000	303	1.000000	0.000000
266	1.000000	0.000000	304	0.000000	-53.85970
267	1.000000	0.000000	305	0.000000	0.000000
268	0.000000	-11.72600	306	1.000000	0.000000
269	1.000000	0.000000	307	0.000000	-75.48000
270	1.000000	0.000000	308	0.000000	-47.66550
271	0.000000	0.000000	309	1.000000	0.000000
272	1.000000	0.000000	310	0.000000	0.000000
273	0.000000	0.000000	311	0.000000	-133.5020
274	0.000000	0.000000	312	0.000000	-2.635850
275	0.000000	0.000000	313	0.000000	-12.57850
276	0.000000	0.000000	314	0.000000	-86.66955
277	0.000000	0.000000	315	0.000000	0.000000
278	1.000000	0.000000	316	1.000000	0.000000
279	0.000000	-2.574100	317	0.000000	-83.08780
280	1.000000	0.000000	318	1.000000	0.000000
281	1.000000	0.000000	319	0.000000	0.000000
282	1.000000	0.000000	320	0.000000	0.000000
283	0.000000	0.000000	321	1.000000	0.000000
284	1.000000	0.000000	322	1.000000	0.000000
285	1.000000	0.000000	323	0.000000	0.000000
286	0.000000	0.000000	324	0.000000	0.000000
287	0.000000	0.000000	325	1.000000	0.000000
288	1.000000	0.000000	326	0.000000	0.000000
289	0.000000	0.000000	327	2.000000	0.000000
290	0.000000	0.000000	328	0.000000	0.000000
291	1.000000	0.000000	329	0.000000	0.000000
292	1.000000	0.000000	330	0.000000	0.000000
293	0.000000	0.000000	331	0.000000	0.000000
294	1.000000	0.000000	332	1.000000	0.000000
295	0.000000	0.000000	333	1.000000	0.000000
296	0.000000	0.000000	334	0.000000	0.000000
297	0.000000	-108.1380	335	0.000000	0.000000
298	0.000000	0.000000	336	0.000000	-74.04110

337	0.000000	0.000000	375	1.000000	0.000000
338	0.000000	-97.05840	376	0.000000	0.000000
339	0.000000	0.000000	377	0.000000	0.000000
340	0.000000	-9.973200	378	0.000000	0.000000
341	1.000000	0.000000	379	0.000000	-13.06880
342	0.000000	0.000000	380	0.000000	0.000000
343	1.000000	0.000000	381	0.000000	0.000000
344	0.000000	0.000000	382	1.000000	0.000000
345	1.000000	0.000000	383	0.000000	0.000000
346	0.000000	0.000000	384	0.000000	0.000000
347	0.000000	0.000000	385	1.000000	0.000000
348	0.000000	0.000000	386	0.000000	0.000000
349	0.000000	0.000000	387	0.000000	0.000000
350	0.000000	-0.3288500	388	0.000000	0.000000
351	1.000000	0.000000	389	0.000000	-25.96730
352	0.000000	0.000000	390	1.000000	0.000000
353	0.000000	0.000000	391	1.000000	0.000000
354	0.000000	0.000000	392	0.000000	0.000000
355	0.000000	0.000000	393	1.000000	0.000000
356	0.000000	-15.94910	394	1.000000	0.000000
357	1.000000	0.000000	395	0.000000	0.000000
358	0.5000000	0.000000	396	0.000000	0.000000
359	0.5000000	0.000000	397	0.000000	-11.57940
360	0.000000	-15.96620	398	0.000000	0.000000
361	0.5000000	0.000000	399	0.000000	0.000000
362	0.5000000	0.000000	400	1.000000	0.000000
363	0.5000000	0.000000	401	0.000000	-79.11610
364	0.000000	0.000000	402	0.000000	0.000000
365	0.000000	0.000000	403	0.000000	0.000000
366	0.000000	0.000000	404	1.000000	0.000000
367	1.000000	0.000000	405	0.000000	0.000000
368	0.000000	-53.92360	406	0.000000	0.000000
369	0.000000	-29.84575	407	0.000000	0.000000
370	1.000000	0.000000	408	1.000000	0.000000
371	0.000000	-3.832900	409	0.000000	0.000000
372	0.000000	0.000000	410	0.000000	0.000000
373	1.000000	0.000000	411	0.000000	0.000000
374	1.000000	0.000000	412	0.000000	0.000000

413	0.000000	0.000000	451	1.000000	0.000000
414	0.000000	-4.684500	452	1.000000	0.000000
415	1.000000	0.000000	453	1.000000	0.000000
416	0.000000	0.000000	454	0.000000	0.000000
417	0.000000	0.000000	455	0.000000	0.000000
418	0.000000	0.000000	456	1.000000	0.000000
419	1.000000	0.000000	457	1.000000	0.000000
420	1.000000	0.000000	458	0.000000	-28.98060
421	0.000000	-50.57500	459	1.000000	0.000000
422	0.000000	0.000000	460	0.000000	0.000000
423	1.000000	0.000000	461	0.000000	-32.50980
424	1.000000	0.000000	462	1.000000	0.000000
425	0.000000	0.000000	463	1.000000	0.000000
426	1.000000	0.000000	464	1.000000	0.000000
427	1.000000	0.000000	465	0.000000	-17.44460
428	0.000000	0.000000	466	1.000000	0.000000
429	1.000000	0.000000	467	0.000000	-42.64100
430	0.000000	0.000000	468	0.000000	0.000000
431	0.000000	0.000000	469	0.000000	0.000000
432	1.000000	0.000000	470	0.000000	0.000000
433	0.000000	-51.00690	471	0.000000	-94.05460
434	1.000000	0.000000	472	0.000000	0.000000
435	0.000000	-54.73750	473	0.000000	0.000000
436	0.000000	0.000000	474	0.000000	0.000000
437	1.000000	0.000000	475	0.000000	-40.88360
438	1.000000	0.000000	476	0.000000	0.000000
439	0.000000	0.000000	477	0.000000	0.000000
440	1.000000	0.000000	478	1.000000	0.000000
441	1.000000	0.000000	479	0.000000	0.000000
442	1.000000	0.000000	480	1.000000	0.000000
443	0.000000	0.000000	481	0.000000	-49.62280
444	0.000000	-17.08650	482	0.000000	0.000000
445	0.000000	0.000000	483	2.000000	0.000000
446	0.000000	0.000000	484	0.000000	-51.20540
447	1.000000	0.000000	485	0.000000	0.000000
448	0.000000	0.000000	486	1.000000	0.000000
449	0.000000	0.000000	487	0.000000	0.000000
450	1.000000	0.000000	488	0.000000	-2.990750

489	1.000000	0.000000	527	0.000000	-14.66960
490	0.000000	-3.212400	528	1.000000	0.000000
491	1.000000	0.000000	529	1.000000	0.000000
492	0.000000	-0.8726000	530	0.000000	0.000000
493	1.000000	0.000000	531	0.000000	0.000000
494	0.000000	-44.64000	532	0.000000	0.000000
495	1.000000	0.000000	533	1.000000	0.000000
496	1.000000	0.000000	534	1.000000	0.000000
497	1.000000	0.000000	535	0.000000	0.000000
498	0.000000	0.000000	536	1.000000	0.000000
499	1.000000	0.000000	537	0.000000	-60.22350
500	0.000000	0.000000	538	1.000000	0.000000
501	1.000000	0.000000	539	1.000000	0.000000
502	1.000000	0.000000	540	0.000000	-51.88070
503	1.000000	0.000000	541	0.000000	0.000000
504	0.000000	0.000000	542	0.000000	0.000000
505	0.000000	0.000000	543	0.000000	0.000000
506	0.000000	-8.795000	544	0.000000	-5.542900
507	0.5000000	0.000000	545	0.000000	0.000000
508	1.000000	0.000000	546	0.000000	0.000000
509	0.000000	0.000000	547	0.000000	-124.3966
510	0.000000	0.000000	548	0.000000	-18.69260
511	1.000000	0.000000	549	0.000000	0.000000
512	0.5000000	0.000000	550	1.000000	0.000000
513	0.5000000	0.000000	551	1.000000	0.000000
514	1.000000	0.000000	552	0.000000	0.000000
515	0.000000	-6.010250	553	1.000000	0.000000
516	0.5000000	0.000000	554	0.000000	0.000000
517	0.5000000	0.000000	555	0.000000	0.000000
518	0.5000000	0.000000	556	1.000000	0.000000
519	0.5000000	0.000000	557	0.000000	-34.00290
520	0.5000000	0.000000	558	1.000000	0.000000
521	1.000000	0.000000	559	0.000000	0.000000
522	1.000000	0.000000	560	0.000000	-19.63100
523	1.000000	0.000000	561	0.000000	0.000000
524	1.000000	0.000000	562	1.000000	0.000000
525	0.000000	0.000000	563	1.000000	0.000000
526	0.000000	0.000000	564	0.000000	0.000000

565	0.000000	0.000000	603	0.000000	0.000000
566	0.000000	0.000000	604	0.000000	-3.267700
567	1.000000	0.000000	605	1.000000	0.000000
568	1.000000	0.000000	606	0.000000	-25.54020
569	0.000000	0.000000	607	0.000000	-85.18110
570	0.000000	0.000000	608	1.000000	0.000000
571	0.000000	-74.54610	609	0.000000	0.000000
572	0.000000	0.000000	610	0.000000	0.000000
573	0.000000	0.000000	611	0.000000	0.000000
574	0.000000	0.000000	612	1.000000	0.000000
575	0.000000	-17.14150	613	0.000000	0.000000
576	2.000000	0.000000	614	0.000000	-24.44710
577	0.000000	0.000000	615	0.000000	0.000000
578	0.000000	-25.32970	616	0.000000	0.000000
579	0.000000	0.000000	617	0.000000	0.000000
580	0.000000	0.000000	618	0.000000	0.000000
581	0.000000	-2.165600	619	1.000000	0.000000
582	0.000000	0.000000	620	0.000000	0.000000
583	0.000000	-35.72240	621	1.000000	0.000000
584	0.000000	-59.96690	622	0.000000	0.000000
585	0.000000	0.000000	623	1.000000	0.000000
586	0.000000	0.000000	624	1.000000	0.000000
587	1.000000	0.000000	625	1.000000	0.000000
588	1.000000	0.000000	626	1.000000	0.000000
589	0.000000	-0.8138000	627	1.000000	0.000000
590	0.000000	0.000000	628	1.000000	0.000000
591	0.000000	0.000000	629	1.000000	0.000000
592	1.000000	0.000000	630	1.000000	0.000000
593	0.000000	0.000000	631	0.000000	0.000000
594	0.000000	-58.17860	632	0.000000	0.000000
595	1.000000	0.000000	633	0.000000	0.000000
596	1.000000	0.000000	634	1.000000	0.000000
597	0.000000	0.000000	635	0.000000	0.000000
598	0.000000	0.000000	636	0.5000000	0.000000
599	0.000000	0.000000	637	0.000000	0.000000
600	0.000000	0.000000	638	0.000000	0.000000
601	0.000000	0.000000	639	0.000000	0.000000
602	0.000000	0.000000	640	1.000000	0.000000

641	1.000000	0.000000	646	1.000000	0.000000
642	0.000000	-4.886900	647	0.000000	0.000000
643	0.000000	0.000000	648	1.000000	0.000000
644	1.000000	0.000000	649	1.000000	0.000000
645	0.000000	0.000000			



Mapa 13

Global optimal solution found.

Objective value: 9943.110

Infeasibilities: 0.000000

Total solver iterations: 186

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X016017	1.000000	0.000000
X001005	1.000000	0.000000	X016030	0.000000	0.000000
X001006	0.000000	37.47000	X017018	1.000000	0.000000
X002003	1.000000	0.000000	X018019	0.000000	36.32000
X002012	0.000000	219.1000	X018023	0.000000	0.000000
X003004	1.000000	0.000000	X018029	1.000000	0.000000
X003010	0.000000	0.000000	X019020	1.000000	0.000000
X004005	1.000000	0.000000	X020021	1.000000	0.000000
X004009	0.000000	6.790000	X021022	1.000000	0.000000
X005007	0.000000	128.4100	X021026	0.000000	0.000000
X006007	1.000000	0.000000	X022023	1.000000	0.000000
X006118	1.000000	0.000000	X022025	0.000000	0.000000
X007008	1.000000	0.000000	X023024	0.000000	32.64000
X007119	1.000000	0.000000	X023027	1.000000	0.000000
X008130	1.000000	0.000000	X024025	1.000000	0.000000
X008129	0.000000	11.26000	X024027	0.000000	0.000000
X009010	1.000000	0.000000	X024129	1.000000	0.000000
X009130	1.000000	0.000000	X025026	1.000000	0.000000
X010011	1.000000	0.000000	X026130	1.000000	0.000000
X011012	1.000000	0.000000	X027028	1.000000	0.000000
X011020	0.000000	3.550000	X028029	0.000000	73.70000
X011130	0.000000	81.50000	X028074	1.000000	0.000000
X012013	1.000000	0.000000	X029030	1.000000	0.000000
X012019	1.000000	0.000000	X030031	1.000000	0.000000
X013014	1.000000	0.000000	X031032	1.000000	0.000000
X014015	1.000000	0.000000	X032033	1.000000	0.000000
X014017	0.000000	94.85000	X032045	0.000000	160.2500
X015016	1.000000	0.000000	X033034	1.000000	0.000000
			X033074	0.000000	49.98000

X034035	1.000000	0.000000	X055056	1.000000	0.000000
X034076	0.000000	144.0600	X055059	0.000000	110.6600
X035036	1.000000	0.000000	X056060	0.000000	37.31000
X035044	0.000000	129.5400	X056063	1.000000	0.000000
X036037	1.000000	0.000000	X057058	1.000000	0.000000
X036039	0.000000	75.84000	X058059	1.000000	0.000000
X037038	1.000000	0.000000	X058133	1.000000	0.000000
X037043	0.000000	0.000000	X059060	1.000000	0.000000
X038039	1.000000	0.000000	X060061	1.000000	0.000000
X038042	0.000000	53.84000	X061062	1.000000	0.000000
X039076	1.000000	0.000000	X061069	0.000000	72.58000
X040041	1.000000	0.000000	X061098	1.000000	0.000000
X040075	1.000000	0.000000	X062063	1.000000	0.000000
X040131	0.000000	2.220000	X062068	0.000000	17.83000
X041072	0.000000	0.000000	X063064	0.000000	63.71000
X041048	1.000000	0.000000	X064065	1.000000	0.000000
X042043	1.000000	0.000000	X064068	1.000000	0.000000
X042131	1.000000	0.000000	X065066	1.000000	0.000000
X043044	1.000000	0.000000	X065132	0.000000	42.10000
X044045	1.000000	0.000000	X066067	1.000000	0.000000
X044046	0.000000	70.31000	X067068	0.000000	28.26000
X045047	1.000000	0.000000	X067070	1.000000	0.000000
X046048	1.000000	0.000000	X068069	1.000000	0.000000
X046131	1.000000	0.000000	X069070	0.000000	87.45000
X047048	1.000000	0.000000	X069095	1.000000	0.000000
X047051	0.000000	0.000000	X070071	1.000000	0.000000
X048049	1.000000	0.000000	X070077	0.000000	8.930000
X049050	1.000000	0.000000	X071072	1.000000	0.000000
X049071	0.000000	154.5000	X071079	0.000000	42.76000
X050066	0.000000	174.4000	X072073	1.000000	0.000000
X050132	1.000000	0.000000	X073074	1.000000	0.000000
X051052	1.000000	0.000000	X073134	0.000000	34.77000
X051132	1.000000	0.000000	X074075	0.000000	0.000000
X052053	1.000000	0.000000	X075076	1.000000	0.000000
X052064	0.000000	158.1300	X077078	1.000000	0.000000
X053054	1.000000	0.000000	X077094	1.000000	0.000000
X054055	1.000000	0.000000	X078079	1.000000	0.000000
X054057	1.000000	0.000000	X078092	0.000000	0.000000

X079134	1.000000	0.000000	X100101	1.000000	0.000000
X080081	1.000000	0.000000	X100133	1.000000	0.000000
X080087	0.000000	21.46000	X101102	1.000000	0.000000
X080128	1.000000	0.000000	X102103	1.000000	0.000000
X081082	1.000000	0.000000	X103104	1.000000	0.000000
X081135	0.000000	152.6200	X103107	0.000000	41.60000
X082083	1.000000	0.000000	X104105	1.000000	0.000000
X082119	0.000000	62.95000	X105106	1.000000	0.000000
X083084	1.000000	0.000000	X106108	1.000000	0.000000
X083121	0.000000	162.0400	X107108	1.000000	0.000000
X084085	1.000000	0.000000	X108109	0.000000	0.000000
X084122	0.000000	100.2200	X109110	1.000000	0.000000
X085135	1.000000	0.000000	X109112	1.000000	0.000000
X085136	1.000000	0.000000	X110111	1.000000	0.000000
X086088	1.000000	0.000000	X111112	0.000000	0.000000
X086110	0.000000	1.950000	X111136	1.000000	0.000000
X086135	1.000000	0.000000	X112113	1.000000	0.000000
X087088	1.000000	0.000000	X113114	0.000000	0.000000
X087092	1.000000	0.000000	X113127	1.000000	0.000000
X088089	0.000000	0.000000	X114115	1.000000	0.000000
X089090	1.000000	0.000000	X114125	1.000000	0.000000
X089102	0.000000	33.98000	X115116	1.000000	0.000000
X089107	1.000000	0.000000	X115124	0.000000	26.85000
X090091	1.000000	0.000000	X116117	1.000000	0.000000
X090099	1.000000	0.000000	X117118	1.000000	0.000000
X090101	0.000000	129.9000	X117123	1.000000	0.000000
X091092	0.000000	5.790000	X119120	1.000000	0.000000
X091097	1.000000	0.000000	X120121	1.000000	0.000000
X092093	1.000000	0.000000	X120123	0.000000	144.8100
X093094	1.000000	0.000000	X121122	1.000000	0.000000
X093097	0.000000	69.43000	X122123	0.000000	0.000000
X094095	0.000000	35.23000	X122126	1.000000	0.000000
X095096	1.000000	0.000000	X123124	1.000000	0.000000
X096097	1.000000	0.000000	X124125	1.000000	0.000000
X096098	0.000000	0.000000	X126127	1.000000	0.000000
X098099	1.000000	0.000000	X128129	1.000000	0.000000
X098133	0.000000	38.08000	X128134	1.000000	0.000000
X099100	0.000000	42.09000			

Row	Slack or Surplus	Dual Price			
1	9943.110	-1.000000	38	0.000000	0.000000
2	0.000000	-73.89000	39	0.000000	-53.40000
3	0.000000	0.000000	40	0.000000	0.000000
4	0.000000	-55.39000	41	0.000000	-53.79000
5	0.000000	0.000000	42	0.000000	0.000000
6	0.000000	-53.23000	43	0.000000	-57.25000
7	0.000000	-119.3000	44	0.000000	-3.810000
8	1.000000	0.000000	45	0.000000	-55.90000
9	0.000000	-25.81000	46	2.000000	0.000000
10	0.000000	-54.91000	47	0.000000	-53.12000
11	0.000000	-48.82000	48	0.000000	0.000000
12	0.000000	0.000000	49	0.000000	0.000000
13	1.000000	0.000000	50	0.000000	-55.23000
14	0.000000	-52.47000	51	1.000000	0.000000
15	0.000000	0.000000	52	0.000000	0.000000
16	0.000000	-17.46000	53	0.000000	-50.32000
17	0.000000	-20.38000	54	1.000000	0.000000
18	0.000000	-55.38000	55	0.000000	0.000000
19	0.000000	0.000000	56	0.000000	-48.61000
20	0.000000	-16.80000	57	1.000000	0.000000
21	0.000000	-43.34000	58	0.000000	0.000000
22	0.000000	-7.300000	59	0.000000	-49.74000
23	0.000000	0.000000	60	0.000000	0.000000
24	0.000000	-49.54000	61	0.000000	-53.24000
25	0.000000	-5.420000	62	0.000000	-1.490000
26	0.000000	-35.30000	63	0.000000	-48.25000
27	0.000000	-44.18000	64	0.000000	-5.320000
28	0.000000	-34.17000	65	0.000000	-45.58000
29	0.000000	-46.76000	66	0.000000	0.000000
30	0.000000	-5.790000	67	0.000000	-51.21000
31	0.000000	-51.88000	68	0.000000	-1.730000
32	0.000000	0.000000	69	0.000000	-18.68000
33	0.000000	-50.72000	70	0.000000	-44.61000
34	0.000000	-5.790000	71	0.000000	-7.590000
35	0.000000	-33.20000	72	0.000000	-47.44000
36	0.000000	-34.38000	73	0.000000	-45.50000
37	0.000000	0.000000	74	0.000000	-46.79000
			75	0.000000	0.000000

76	0.000000	-48.76000	114	0.000000	-4.050000
77	0.000000	-2.390000	115	0.000000	-53.05000
78	0.000000	-49.08000	116	1.000000	0.000000
79	0.000000	0.000000	117	0.000000	-65.42000
80	0.000000	-52.62000	118	1.000000	0.000000
81	1.000000	0.000000	119	0.000000	-51.30000
82	0.000000	0.000000	120	0.000000	-43.52000
83	0.000000	-25.85000	121	0.000000	-3.000000
84	0.000000	-49.83000	122	0.000000	0.000000
85	0.000000	-36.80000	123	0.000000	-47.32000
86	1.000000	0.000000	124	1.000000	0.000000
87	0.000000	-42.21000	125	1.000000	0.000000
88	0.000000	-23.39000	126	1.000000	0.000000
89	0.000000	-23.23000	127	1.000000	0.000000
90	0.000000	-18.26000	128	1.000000	0.000000
91	0.000000	0.000000	129	0.000000	0.000000
92	0.000000	-29.45000	130	2.000000	0.000000
93	0.000000	0.000000	131	1.000000	0.000000
94	0.000000	0.000000	132	0.000000	-10.86000
95	0.000000	-43.85000	133	0.000000	0.000000
96	0.000000	-43.91000	134	0.000000	-52.83000
97	0.000000	0.000000	135	2.000000	0.000000
98	0.000000	-50.32000	136	0.000000	-49.30000
99	0.000000	-4.260000	137	1.000000	0.000000
100	0.000000	-52.04000	138	0.000000	0.000000
101	0.000000	0.000000	139	1.000000	0.000000
102	0.000000	0.000000	140	0.000000	-31.34000
103	0.000000	-48.41000	141	0.000000	0.000000
104	0.000000	-27.58000	142	0.000000	-52.72000
105	0.000000	-11.68000	143	0.000000	0.000000
106	0.000000	-33.45000	144	1.000000	0.000000
107	0.000000	0.000000	145	1.000000	0.000000
108	0.000000	-55.94000	146	1.000000	0.000000
109	1.000000	0.000000	147	1.000000	0.000000
110	0.000000	-18.11000	148	0.000000	0.000000
111	0.000000	0.000000	149	0.000000	0.000000
112	0.000000	-20.59000	150	0.000000	-28.34000
113	0.000000	-39.04000	151	0.000000	0.000000

152	0.000000	0.000000	190	0.000000	0.000000
153	0.000000	0.000000	191	1.000000	0.000000
154	0.000000	-17.88000	192	1.000000	0.000000
155	1.000000	0.000000	193	0.000000	0.000000
156	1.000000	0.000000	194	1.000000	0.000000
157	1.000000	0.000000	195	0.000000	0.000000
158	1.000000	0.000000	196	1.000000	0.000000
159	1.000000	0.000000	197	0.000000	0.000000
160	1.000000	0.000000	198	0.000000	0.000000
161	1.000000	0.000000	199	0.000000	0.000000
162	0.000000	0.000000	200	0.000000	0.000000
163	1.000000	0.000000	201	1.000000	0.000000
164	0.000000	0.000000	202	0.000000	0.000000
165	0.000000	-18.42000	203	0.000000	0.000000
166	0.000000	0.000000	204	1.000000	0.000000
167	1.000000	0.000000	205	1.000000	0.000000
168	0.000000	0.000000	206	1.000000	0.000000
169	0.000000	-88.06000	207	1.000000	0.000000
170	1.000000	0.000000	208	1.000000	0.000000
171	2.000000	0.000000	209	0.000000	-8.040000
172	1.000000	0.000000	210	0.000000	-7.950000
173	0.000000	0.000000	211	1.000000	0.000000
174	0.000000	0.000000	212	1.000000	0.000000
175	1.000000	0.000000	213	1.000000	0.000000
176	0.000000	-209.8200	214	0.000000	-34.98000
177	1.000000	0.000000	215	1.000000	0.000000
178	1.000000	0.000000	216	1.000000	0.000000
179	0.000000	0.000000	217	1.000000	0.000000
180	0.000000	-52.63000	218	0.000000	0.000000
181	1.000000	0.000000	219	1.000000	0.000000
182	0.000000	-55.06000	220	0.000000	0.000000
183	0.000000	0.000000	221	0.000000	0.000000
184	1.000000	0.000000	222	1.000000	0.000000
185	1.000000	0.000000	223	0.000000	0.000000
186	1.000000	0.000000	224	0.000000	0.000000
187	1.000000	0.000000	225	0.000000	0.000000
188	1.000000	0.000000	226	1.000000	0.000000
189	0.000000	0.000000	227	0.000000	0.000000

228	0.000000	0.000000	266	1.000000	0.000000
229	0.000000	0.000000	267	0.000000	-39.99000
230	0.000000	0.000000	268	1.000000	0.000000
231	1.000000	0.000000	269	1.000000	0.000000
232	0.000000	0.000000	270	0.000000	0.000000
233	0.000000	0.000000	271	1.000000	0.000000
234	0.000000	0.000000	272	0.000000	-29.79000
235	0.000000	-15.85000	273	0.000000	0.000000
236	0.000000	0.000000	274	0.000000	-194.3700
237	0.000000	0.000000	275	0.000000	0.000000
238	1.000000	0.000000	276	1.000000	0.000000
239	0.000000	-16.69000	277	1.000000	0.000000
240	1.000000	0.000000	278	0.000000	0.000000
241	0.000000	-48.78000	279	1.000000	0.000000
242	0.000000	-63.88000	280	0.000000	0.000000
243	1.000000	0.000000	281	0.000000	0.000000
244	0.000000	-13.92000	282	0.000000	-39.41000
245	1.000000	0.000000	283	0.000000	0.000000
246	0.000000	0.000000	284	1.000000	0.000000
247	0.000000	0.000000	285	1.000000	0.000000
248	0.000000	-124.0400	286	0.000000	0.000000
249	0.000000	-15.16000	287	0.000000	0.000000
250	0.000000	-73.74000	288	0.000000	-8.780000
251	1.000000	0.000000	289	1.000000	0.000000
252	0.000000	0.000000	290	0.000000	-243.5300
253	1.000000	0.000000	291	0.000000	0.000000
254	0.000000	0.000000	292	0.000000	0.000000
255	1.000000	0.000000	293	0.000000	0.000000
256	0.000000	-47.03000	294	0.000000	0.000000
257	0.000000	0.000000	295	0.000000	0.000000
258	0.000000	-4.720000	296	0.000000	-8.330000
259	0.000000	-102.3300	297	0.000000	0.000000
260	0.000000	-29.14000	298	1.000000	0.000000
261	0.000000	0.000000	299	0.000000	-72.40000
262	0.000000	-29.47000	300	0.000000	-130.6000
263	0.000000	0.000000	301	1.000000	0.000000
264	0.000000	0.000000	302	1.000000	0.000000
265	1.000000	0.000000	303	0.000000	0.000000

304	1.000000	0.000000	342	0.000000	0.000000
305	1.000000	0.000000	343	0.000000	-1.780000
306	0.000000	0.000000	344	1.000000	0.000000
307	2.000000	0.000000	345	0.000000	0.000000
308	0.000000	0.000000	346	1.000000	0.000000
309	0.000000	0.000000	347	0.000000	0.000000
310	1.000000	0.000000	348	0.000000	0.000000
311	0.000000	0.000000	349	1.000000	0.000000
312	0.000000	-55.52000	350	0.000000	0.000000
313	1.000000	0.000000	351	0.000000	0.000000
314	0.000000	0.000000	352	0.000000	0.000000
315	0.000000	-85.33000	353	0.000000	0.000000
316	0.000000	-150.4000	354	0.000000	-8.590000
317	1.000000	0.000000	355	0.000000	0.000000
318	1.000000	0.000000	356	0.000000	-13.26000
319	1.000000	0.000000	357	1.000000	0.000000
320	1.000000	0.000000	358	0.000000	0.000000
321	0.000000	0.000000	359	1.000000	0.000000
322	0.000000	0.000000	360	1.000000	0.000000
323	1.000000	0.000000	361	1.000000	0.000000
324	0.000000	-10.41000	362	0.000000	-46.74000
325	1.000000	0.000000	363	0.000000	-63.50000
326	0.000000	0.000000	364	0.000000	-54.23000
327	0.000000	0.000000	365	0.000000	-45.75000
328	0.000000	0.000000	366	0.000000	0.000000
329	1.000000	0.000000	367	0.000000	0.000000
330	0.000000	-2.760000	368	1.000000	0.000000
331	1.000000	0.000000	369	1.000000	0.000000
332	0.000000	0.000000	370	0.000000	0.000000
333	1.000000	0.000000	371	0.000000	0.000000
334	0.000000	0.000000	372	0.000000	0.000000
335	1.000000	0.000000	373	1.000000	0.000000
336	1.000000	0.000000	374	0.000000	0.000000
337	0.000000	0.000000	375	0.000000	-196.0000
338	1.000000	0.000000	376	1.000000	0.000000
339	0.000000	-17.26000	377	0.000000	-110.2200
340	0.000000	0.000000	378	0.000000	0.000000
341	0.000000	0.000000	379	0.000000	0.000000

380	1.000000	0.000000	418	0.000000	0.000000
381	0.000000	0.000000	419	0.000000	-82.27000
382	1.000000	0.000000	420	1.000000	0.000000
383	1.000000	0.000000	421	1.000000	0.000000
384	0.000000	0.000000	422	1.000000	0.000000
385	0.000000	0.000000	423	0.000000	0.000000
386	0.000000	-40.38000	424	0.000000	0.000000
387	1.000000	0.000000	425	0.000000	0.000000
388	1.000000	0.000000	426	0.000000	0.000000
389	1.000000	0.000000	427	0.000000	0.000000
390	1.000000	0.000000	428	0.000000	0.000000
391	0.000000	-15.96000	429	0.000000	0.000000
392	0.000000	0.000000	430	0.000000	-8.030000
393	1.000000	0.000000	431	0.000000	0.000000
394	1.000000	0.000000	432	0.000000	0.000000
395	0.000000	-25.11000	433	1.000000	0.000000
396	0.000000	0.000000	434	0.000000	0.000000
397	0.000000	0.000000	435	0.000000	0.000000
398	0.000000	0.000000	436	0.000000	0.000000
399	0.000000	-3.330000	437	0.000000	-61.91000
400	0.000000	0.000000	438	0.000000	0.000000
401	0.000000	0.000000	439	0.000000	-103.5400
402	1.000000	0.000000	440	2.000000	0.000000
403	0.000000	0.000000	441	0.000000	-10.66000
404	0.000000	0.000000	442	1.000000	0.000000
405	0.000000	0.000000	443	0.000000	0.000000
406	1.000000	0.000000	444	0.000000	0.000000
407	1.000000	0.000000	445	1.000000	0.000000
408	0.000000	0.000000	446	0.000000	-47.92000
409	0.000000	0.000000	447	1.000000	0.000000
410	0.000000	0.000000	448	1.000000	0.000000
411	1.000000	0.000000	449	0.000000	0.000000
412	1.000000	0.000000	450	0.000000	-0.700E-01
413	0.000000	-25.07000	451	2.000000	0.000000
414	0.000000	0.000000	452	0.000000	-49.39000
415	0.000000	0.000000	453	0.000000	0.000000
416	1.000000	0.000000	454	0.000000	0.000000
417	1.000000	0.000000	455	0.000000	0.000000

456	0.000000	0.000000	494	1.000000	0.000000
457	1.000000	0.000000	495	0.000000	0.000000
458	1.000000	0.000000	496	0.000000	-48.33000
459	1.000000	0.000000	497	0.000000	-7.090000
460	0.000000	0.000000	498	1.000000	0.000000
461	0.000000	0.000000	499	1.000000	0.000000
462	0.000000	0.000000	500	1.000000	0.000000
463	0.000000	-27.26000	501	0.000000	0.000000
464	0.000000	0.000000	502	0.000000	0.000000
465	1.000000	0.000000	503	1.000000	0.000000
466	0.000000	0.000000	504	1.000000	0.000000
467	0.000000	0.000000	505	0.000000	0.000000
468	0.000000	0.000000	506	0.000000	0.000000
469	0.000000	-60.82000	507	1.000000	0.000000
470	1.000000	0.000000	508	1.000000	0.000000
471	0.000000	0.000000	509	0.000000	0.000000
472	0.000000	0.000000	510	1.000000	0.000000
473	0.000000	0.000000	511	0.000000	-36.33000
474	0.000000	0.000000	512	2.000000	0.000000
475	1.000000	0.000000	513	0.000000	0.000000
476	1.000000	0.000000	514	0.000000	0.000000
477	0.000000	0.000000	515	1.000000	0.000000
478	0.000000	0.000000	516	0.000000	-51.43000
479	1.000000	0.000000	517	0.000000	0.000000
480	1.000000	0.000000	518	1.000000	0.000000
481	1.000000	0.000000	519	1.000000	0.000000
482	1.000000	0.000000	520	1.000000	0.000000
483	0.000000	0.000000	521	0.000000	0.000000
484	0.000000	-7.590000	522	0.000000	0.000000
485	1.000000	0.000000	523	0.000000	-4.210000
486	0.000000	0.000000	524	1.000000	0.000000
487	1.000000	0.000000	525	2.000000	0.000000
488	0.000000	-48.28000	526	1.000000	0.000000
489	0.000000	-2.940000	527	0.000000	0.000000
490	0.000000	0.000000	528	0.000000	-44.92000
491	0.000000	0.000000	529	0.000000	0.000000
492	0.000000	0.000000	530	1.000000	0.000000
493	0.000000	0.000000	531	1.000000	0.000000

532	1.000000	0.000000	536	1.000000	0.000000
533	0.000000	-12.30000	537	0.000000	0.000000
534	2.000000	0.000000	538	0.000000	-68.20000
535	0.000000	0.000000	539	1.000000	0.000000



Mapa 14

Global optimal solution found.

Objective value: 9786.335

Infeasibilities: 0.000000

Total solver iterations: 137

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X016052	1.000000	0.000000
X001005	1.000000	0.000000	X016017	1.000000	0.000000
X002003	1.000000	0.000000	X017062	1.000000	0.000000
X002006	0.000000	56.91000	X018019	1.000000	0.000000
X003004	1.000000	0.000000	X018028	1.000000	0.000000
X004007	0.000000	0.000000	X020028	1.000000	0.000000
X004038	1.000000	0.000000	X022023	1.000000	0.000000
X005006	1.000000	0.000000	X022026	1.000000	0.000000
X005010	0.000000	0.000000	X022062	0.000000	378.4400
X006011	0.000000	48.91000	X023024	1.000000	0.000000
X006007	1.000000	0.000000	X024025	1.000000	0.000000
X007008	1.000000	0.000000	X024038	0.000000	46.47000
X007037	0.000000	125.5800	X025026	1.000000	0.000000
X008009	1.000000	0.000000	X025031	1.000000	0.000000
X008036	0.000000	142.2300	X025037	0.000000	123.1900
X009012	0.000000	4.170000	X026027	0.000000	87.38000
X009034	1.000000	0.000000	X027028	1.000000	0.000000
X010011	1.000000	0.000000	X027029	1.000000	0.000000
X010039	1.000000	0.000000	X029033	1.000000	0.000000
X011012	1.000000	0.000000	X030031	1.000000	0.000000
X012039	1.000000	0.000000	X030032	1.000000	0.000000
X012046	1.000000	0.000000	X031036	0.000000	99.36000
X012013	0.000000	62.79000	X032035	1.000000	0.000000
X013047	1.000000	0.000000	X033034	1.000000	0.000000
X013014	1.000000	0.000000	X034035	0.000000	15.00000
X014015	1.000000	0.000000	X035036	1.000000	0.000000
X014048	1.000000	0.000000	X036037	1.000000	0.000000
X015016	1.000000	0.000000	X037038	1.000000	0.000000
			X039040	0.000000	0.000000

X040041	1.000000	0.000000	X069073	0.000000	22.23000
X040045	1.000000	0.000000	X069070	1.000000	0.000000
X041042	1.000000	0.000000	X070072	1.000000	0.000000
X042043	0.000000	0.000000	X071072	1.000000	0.000000
X042055	1.000000	0.000000	X068071	1.000000	0.000000
X042057	0.000000	119.9500	X072073	1.000000	0.000000
X043054	1.000000	0.000000	X073074	1.000000	0.000000
X043044	1.000000	0.000000	X074075	1.000000	0.000000
X044048	0.000000	0.000000	X074078	0.000000	83.94000
X044045	1.000000	0.000000	X074094	1.000000	0.000000
X045046	0.000000	42.44000	X075076	1.000000	0.000000
X045047	0.000000	138.0300	X076077	1.000000	0.000000
X046047	1.000000	0.000000	X076079	1.000000	0.000000
X048049	1.000000	0.000000	X077081	0.000000	42.50000
X049050	1.000000	0.000000	X077078	1.000000	0.000000
X049054	0.000000	0.000000	X078082	1.000000	0.000000
X050051	1.000000	0.000000	X078094	0.000000	61.17000
X050053	0.000000	0.000000	X079080	1.000000	0.000000
X051052	1.000000	0.000000	X080088	1.000000	0.000000
X053054	1.000000	0.000000	X080084	0.000000	88.85000
X053058	1.000000	0.000000	X081082	1.000000	0.000000
X055056	1.000000	0.000000	X081083	1.000000	0.000000
X056057	1.000000	0.000000	X082093	0.000000	54.38500
X057058	1.000000	0.000000	X083084	1.000000	0.000000
X060061	1.000000	0.000000	X083092	0.000000	232.6150
X061062	1.000000	0.000000	X084089	1.000000	0.000000
X062063	1.000000	0.000000	X084085	1.000000	0.000000
X063064	1.000000	0.000000	X085086	1.000000	0.000000
X064065	0.000000	44.46000	X085088	0.000000	0.000000
X064086	1.000000	0.000000	X086087	0.000000	20.18000
X065066	1.000000	0.000000	X087088	1.000000	0.000000
X065087	1.000000	0.000000	X089090	1.000000	0.000000
X066067	1.000000	0.000000	X090091	1.000000	0.000000
X066079	0.000000	110.3800	X090106	0.000000	117.6000
X067068	1.000000	0.000000	X091095	0.000000	0.000000
X067076	0.000000	123.0000	X091092	1.000000	0.000000
X068075	0.000000	48.48000	X091097	0.000000	234.4050
X068069	1.000000	0.000000	X092098	0.5000000	0.000000

X092093	0.5000000	0.000000	19	1.000000	0.000000
X093094	1.000000	0.000000	20	0.000000	0.000000
X093098	0.5000000	0.000000	21	0.000000	0.000000
X095096	1.000000	0.000000	22	1.000000	0.000000
X095105	1.000000	0.000000	23	0.000000	-53.20000
X096102	1.000000	0.000000	24	0.000000	-47.95000
X096103	0.000000	137.3050	25	0.000000	-56.17000
X097101	1.000000	0.000000	26	0.000000	0.000000
X097099	1.000000	0.000000	27	0.000000	0.000000
X098099	1.000000	0.000000	28	0.000000	-53.44000
X100101	1.000000	0.000000	29	0.000000	-116.3900
X101102	0.000000	48.36500	30	0.000000	-57.25000
X102103	1.000000	0.000000	31	0.000000	-45.47000
X103104	1.000000	0.000000	32	0.000000	-3.340000
X103105	0.000000	0.000000	33	0.000000	-47.98000
X104107	1.000000	0.000000	34	0.000000	-0.8200000
X105106	1.000000	0.000000	35	0.000000	-85.05000
X106107	1.000000	0.000000	36	0.000000	-5.660000
			37	0.000000	-26.48000
			38	0.000000	-26.92000
			39	0.000000	-26.12000
			40	0.000000	-51.72000
			41	0.000000	0.000000
			42	0.000000	-51.72000
			43	0.000000	0.000000
			44	1.000000	0.000000
			45	0.000000	0.000000
			46	0.000000	0.000000
			47	0.000000	0.000000
			48	0.000000	-50.25000
			49	1.000000	0.000000
			50	0.000000	-52.71000
			51	1.000000	0.000000
			52	0.000000	0.000000
			53	1.000000	0.000000
			54	0.000000	-49.00000
			55	1.000000	0.000000
			56	0.000000	-49.95000
Row	Slack or Surplus	Dual Price			
1	9786.335	-1.000000			
2	0.000000	-68.83000			
3	0.000000	-56.67000			
4	0.000000	0.000000			
5	0.000000	-51.10000			
6	0.000000	0.000000			
7	0.000000	0.000000			
8	0.000000	-51.73000			
9	0.000000	-9.420000			
10	0.000000	-56.51000			
11	1.000000	0.000000			
12	0.000000	-56.67000			
13	1.000000	0.000000			
14	1.000000	0.000000			
15	0.000000	0.000000			
16	0.000000	-180.1700			
17	0.000000	-50.45000			
18	0.000000	0.000000			

57	0.000000	0.000000	95	0.000000	0.000000
58	0.000000	-49.74000	96	1.000000	0.000000
59	0.000000	0.000000	97	0.000000	-111.6900
60	0.000000	-54.06000	98	1.000000	0.000000
61	0.000000	-3.770000	99	0.000000	-274.1000
62	0.000000	0.000000	100	0.000000	-64.90000
63	1.000000	0.000000	101	1.000000	0.000000
64	0.000000	-21.85000	102	0.000000	-3.240000
65	0.000000	-29.30000	103	1.000000	0.000000
66	0.000000	-47.25000	104	1.000000	0.000000
67	0.000000	-1.820000	105	1.000000	0.000000
68	0.000000	-43.62000	106	0.000000	-53.78000
69	0.000000	0.000000	107	1.000000	0.000000
70	0.000000	-9.425000	108	0.000000	-54.19000
71	0.000000	-42.42500	109	0.000000	0.000000
72	0.000000	-13.27500	110	1.000000	0.000000
73	0.000000	-87.02000	111	0.000000	-55.02000
74	0.000000	0.000000	112	0.000000	0.000000
75	0.000000	0.000000	113	1.000000	0.000000
76	0.000000	-31.26000	114	0.000000	-20.33000
77	0.000000	-96.19000	115	1.000000	0.000000
78	0.000000	-59.19000	116	1.000000	0.000000
79	0.000000	-58.77000	117	0.000000	-44.67000
80	0.000000	-34.52500	118	1.000000	0.000000
81	0.000000	0.000000	119	0.000000	0.000000
82	0.000000	-54.36000	120	0.000000	-116.3400
83	0.000000	0.000000	121	0.000000	0.000000
84	1.000000	0.000000	122	0.000000	-2.390000
85	0.000000	0.000000	123	0.000000	0.000000
86	0.000000	0.000000	124	0.000000	0.000000
87	1.000000	0.000000	125	0.000000	-21.22000
88	1.000000	0.000000	126	0.000000	0.000000
89	1.000000	0.000000	127	0.000000	-35.38000
90	1.000000	0.000000	128	1.000000	0.000000
91	0.000000	0.000000	129	1.000000	0.000000
92	0.000000	0.000000	130	0.000000	0.000000
93	0.000000	0.000000	131	0.000000	-57.43000
94	2.000000	0.000000	132	0.000000	0.000000

133	0.000000	-103.6300	171	0.000000	-315.4750
134	0.000000	-4.820000	172	0.000000	0.000000
135	0.000000	0.000000	173	1.000000	0.000000
136	0.000000	-3.700000	174	0.000000	0.000000
137	0.000000	-13.88000	175	0.000000	-248.7850
138	0.000000	-56.14000	176	0.000000	-57.00000
139	1.000000	0.000000	177	1.000000	0.000000
140	0.000000	-73.37000	178	0.000000	0.000000
141	0.000000	0.000000	179	1.000000	0.000000
142	0.000000	-52.62000	180	0.000000	-35.40500
143	1.000000	0.000000	181	0.000000	-29.63500
144	1.000000	0.000000	182	0.000000	0.000000
145	1.000000	0.000000	183	0.000000	-121.7800
146	0.000000	-0.8000000	184	0.000000	-239.2300
147	0.000000	0.000000	185	0.000000	-25.83000
148	0.000000	-169.0600	186	0.000000	-22.23000
149	1.000000	0.000000	187	0.000000	0.000000
150	0.000000	-64.93000	188	0.000000	0.000000
151	1.000000	0.000000	189	0.000000	0.000000
152	0.000000	-85.25000	190	0.000000	0.000000
153	2.000000	0.000000	191	0.000000	0.000000
154	0.000000	-0.3700000	192	0.000000	0.000000
155	1.000000	0.000000	193	1.000000	0.000000
156	0.000000	-1.160000	194	1.000000	0.000000
157	1.000000	0.000000	195	1.000000	0.000000
158	0.000000	0.000000	196	1.000000	0.000000
159	1.000000	0.000000	197	1.000000	0.000000
160	1.000000	0.000000	198	0.000000	-109.6000
161	2.000000	0.000000	199	1.000000	0.000000
162	1.000000	0.000000	200	0.000000	-54.12000
163	1.000000	0.000000	201	0.000000	-206.5200
164	0.000000	0.000000	202	0.000000	0.000000
165	0.000000	-40.79000	203	0.000000	-105.3400
166	0.000000	-58.40000	204	0.000000	-54.27000
167	1.000000	0.000000	205	1.000000	0.000000
168	0.000000	-41.02500	206	0.000000	-55.80000
169	1.000000	0.000000	207	1.000000	0.000000
170	1.000000	0.000000	208	1.000000	0.000000

209	0.000000	-55.03000	247	0.000000	0.000000
210	0.000000	0.000000	248	0.000000	-210.0000
211	0.000000	0.000000	249	0.000000	-321.6400
212	0.000000	0.000000	250	1.000000	0.000000
213	0.000000	-151.3800	251	1.000000	0.000000
214	0.000000	0.000000	252	1.000000	0.000000
215	0.000000	0.000000	253	1.000000	0.000000
216	1.000000	0.000000	254	1.000000	0.000000
217	1.000000	0.000000	255	0.000000	0.000000
218	0.000000	0.000000	256	0.000000	0.000000
219	0.000000	0.000000	257	1.000000	0.000000
220	1.000000	0.000000	258	0.000000	-10.28000
221	0.000000	-12.06000	259	1.000000	0.000000
222	1.000000	0.000000	260	0.000000	0.000000
223	1.000000	0.000000	261	0.000000	-56.67000
224	0.000000	0.000000	262	1.000000	0.000000
225	0.000000	-3.490000	263	0.000000	0.000000
226	0.000000	0.000000	264	0.000000	0.000000
227	0.000000	0.000000	265	0.000000	0.000000
228	0.000000	0.000000	266	0.000000	0.000000
229	0.000000	0.000000	267	0.000000	-290.9600
230	0.000000	0.000000	268	0.000000	0.000000
231	0.000000	-75.50000	269	1.000000	0.000000
232	0.000000	0.000000	270	0.000000	0.000000
233	1.000000	0.000000	271	0.5000000	0.000000
234	0.000000	0.000000	272	0.000000	0.000000
235	0.000000	-180.4800	273	1.000000	0.000000
236	0.000000	0.000000	274	0.000000	0.000000
237	1.000000	0.000000	275	1.000000	0.000000
238	0.000000	0.000000	276	0.5000000	0.000000
239	0.000000	-67.09000	277	0.000000	0.000000
240	2.000000	0.000000	278	0.000000	0.000000
241	0.000000	-58.94000	279	0.000000	-6.025000
242	0.000000	0.000000	280	0.000000	0.000000
243	1.000000	0.000000	281	0.000000	0.000000
244	0.000000	0.000000	282	0.000000	0.000000
245	0.000000	-2.540000	283	1.000000	0.000000
246	2.000000	0.000000	284	0.000000	0.000000

285	0.000000	0.000000	323	0.000000	0.000000
286	1.000000	0.000000	324	1.000000	0.000000
287	0.000000	0.000000	325	1.000000	0.000000
288	1.000000	0.000000	326	0.000000	0.000000
289	0.000000	0.000000	327	0.000000	0.000000
290	0.000000	-55.11000	328	0.000000	0.000000
291	1.000000	0.000000	329	1.000000	0.000000
292	0.000000	-160.9000	330	1.000000	0.000000
293	0.000000	0.000000	331	1.000000	0.000000
294	1.000000	0.000000	332	0.000000	-90.39000
295	0.000000	0.000000	333	2.000000	0.000000
296	1.000000	0.000000	334	0.000000	0.000000
297	1.000000	0.000000	335	1.000000	0.000000
298	0.000000	0.000000	336	1.000000	0.000000
299	0.000000	0.000000	337	0.000000	0.000000
300	1.000000	0.000000	338	0.000000	0.000000
301	0.000000	0.000000	339	0.000000	0.000000
302	0.000000	0.000000	340	0.000000	0.000000
303	1.000000	0.000000	341	0.000000	-141.8100
304	0.000000	-5.220000	342	0.000000	0.000000
305	0.000000	0.000000	343	1.000000	0.000000
306	1.000000	0.000000	344	0.000000	-28.72000
307	0.000000	0.000000	345	0.000000	0.000000
308	0.000000	0.000000	346	1.000000	0.000000
309	1.000000	0.000000	347	1.000000	0.000000
310	0.000000	-5.560000	348	0.000000	0.000000
311	0.000000	0.000000	349	0.000000	0.000000
312	0.000000	0.000000	350	0.5000000	0.000000
313	0.000000	0.000000	351	0.000000	0.000000
314	1.000000	0.000000	352	1.000000	0.000000
315	1.000000	0.000000	353	0.000000	-31.51500
316	1.000000	0.000000	354	0.000000	0.000000
317	1.000000	0.000000	355	0.000000	0.000000
318	1.000000	0.000000	356	0.5000000	0.000000
319	0.000000	0.000000	357	0.000000	0.000000
320	0.000000	0.000000	358	1.000000	0.000000
321	0.000000	-26.83000	359	0.000000	0.000000
322	1.000000	0.000000	360	1.000000	0.000000

361	0.000000	-31.89000	371	1.000000	0.000000
362	0.000000	-9.040000	372	1.000000	0.000000
363	1.000000	0.000000	373	1.000000	0.000000
364	1.000000	0.000000	374	1.000000	0.000000
365	2.000000	0.000000	375	1.000000	0.000000
366	0.000000	0.000000	376	1.000000	0.000000
367	0.000000	-54.00000	377	0.5000000	0.000000
368	1.000000	0.000000	378	0.5000000	0.000000
369	1.000000	0.000000	379	1.000000	0.000000
370	1.000000	0.000000			



Mapa 15

Global optimal solution found.

Objective value: 6713.310

Infeasibilities: 0.000000

Total solver iterations: 124

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X015019	1.000000	0.000000
X001005	0.000000	64.04000	X017018	1.000000	0.000000
X001010	1.000000	0.000000	X017022	0.000000	47.81000
X002003	0.5000000	0.000000	X018019	1.000000	0.000000
X002004	0.5000000	0.000000	X018021	0.000000	46.98000
X003004	0.5000000	0.000000	X019020	0.000000	0.000000
X003089	1.000000	0.000000	X020021	1.000000	0.000000
X004005	1.000000	0.000000	X020026	1.000000	0.000000
X005006	1.000000	0.000000	X021022	1.000000	0.000000
X006007	1.000000	0.000000	X022023	1.000000	0.000000
X007023	0.000000	123.8900	X023024	1.000000	0.000000
X007088	1.000000	0.000000	X024025	1.000000	0.000000
X008009	1.000000	0.000000	X024026	0.000000	89.88000
X008016	1.000000	0.000000	X025027	1.000000	0.000000
X008017	1.000000	0.000000	X025042	0.000000	15.51000
X008088	1.000000	0.000000	X026027	1.000000	0.000000
X009010	0.000000	88.90000	X027028	1.000000	0.000000
X009089	1.000000	0.000000	X028029	1.000000	0.000000
X010011	1.000000	0.000000	X029030	0.000000	63.21000
X011012	1.000000	0.000000	X029032	0.000000	0.000000
X012013	0.000000	36.69000	X029042	1.000000	0.000000
X012044	1.000000	0.000000	X030031	1.000000	0.000000
X013014	1.000000	0.000000	X031032	1.000000	0.000000
X013030	1.000000	0.000000	X031034	0.000000	36.66000
X013035	1.000000	0.000000	X032033	1.000000	0.000000
X014015	1.000000	0.000000	X033034	1.000000	0.000000
X014028	0.000000	104.1200	X033041	0.000000	0.000000
X015016	1.000000	0.000000	X034037	1.000000	0.000000
			X035036	1.000000	0.000000

X036037	1.000000	0.000000	X062067	1.000000	0.000000
X036038	0.000000	0.000000	X063066	1.000000	0.000000
X037040	0.000000	0.000000	X064065	1.000000	0.000000
X038039	1.000000	0.000000	X064066	1.000000	0.000000
X038046	1.000000	0.000000	X065072	1.000000	0.000000
X039040	1.000000	0.000000	X066067	1.000000	0.000000
X039043	0.000000	71.76000	X066071	1.000000	0.000000
X040041	1.000000	0.000000	X067070	0.000000	0.000000
X041042	1.000000	0.000000	X068069	1.000000	0.000000
X043047	0.000000	87.17000	X069070	1.000000	0.000000
X043053	1.000000	0.000000	X069073	0.000000	0.000000
X043090	1.000000	0.000000	X070071	0.000000	4.580000
X044046	1.000000	0.000000	X070074	1.000000	0.000000
X046047	0.000000	20.97000	X071072	0.000000	9.210000
X047090	1.000000	0.000000	X071075	1.000000	0.000000
X047048	1.000000	0.000000	X072077	1.000000	0.000000
X048049	1.000000	0.000000	X073078	1.000000	0.000000
X048051	0.000000	7.850000	X073074	1.000000	0.000000
X049054	0.000000	191.4100	X074080	0.000000	23.34000
X049050	1.000000	0.000000	X074075	0.000000	0.000000
X050055	0.000000	0.000000	X075076	1.000000	0.000000
X050060	1.000000	0.000000	X075083	0.000000	116.4300
X051052	1.000000	0.000000	X076077	1.000000	0.000000
X051054	1.000000	0.000000	X076084	0.000000	24.26000
X052053	0.000000	0.000000	X077085	0.000000	71.05000
X052057	1.000000	0.000000	X078079	1.000000	0.000000
X053058	1.000000	0.000000	X079080	0.000000	0.000000
X054055	1.000000	0.000000	X079081	1.000000	0.000000
X055059	1.000000	0.000000	X080083	1.000000	0.000000
X056057	1.000000	0.000000	X080082	1.000000	0.000000
X056063	1.000000	0.000000	X081082	1.000000	0.000000
X057064	0.000000	0.000000	X082086	0.000000	0.000000
X058065	1.000000	0.000000	X083084	1.000000	0.000000
X059063	0.000000	43.47000	X083086	1.000000	0.000000
X059062	1.000000	0.000000	X084085	1.000000	0.000000
X060061	1.000000	0.000000	X085087	1.000000	0.000000
X061062	0.000000	0.000000	X086087	1.000000	0.000000
X061068	1.000000	0.000000			

Row	Slack or Surplus	Dual Price			
1	6713.310	-1.000000	38	0.000000	-12.98000
2	0.000000	0.000000	39	0.000000	-80.67000
3	0.000000	-46.38000	40	0.000000	-82.61000
4	0.000000	-56.51000	41	0.000000	-75.02000
5	0.000000	-31.55000	42	0.000000	-3.890000
6	0.000000	-18.89000	43	0.000000	-46.55000
7	0.000000	-14.78000	44	0.000000	0.000000
8	2.000000	0.000000	45	0.000000	-35.59000
9	0.000000	-53.32000	46	0.000000	-44.33000
10	0.000000	-46.38000	47	0.000000	-33.36000
11	0.000000	-180.4600	48	0.000000	-16.59000
12	1.000000	0.000000	49	0.000000	0.000000
13	0.000000	-50.00000	50	0.000000	-47.31000
14	1.000000	0.000000	51	0.000000	-44.94000
15	0.000000	-67.36000	52	0.000000	-0.8600000
16	0.000000	0.000000	53	0.000000	-43.64000
17	0.000000	-53.28000	54	0.000000	-49.47000
18	0.000000	-9.420000	55	0.000000	-53.94000
19	0.000000	-28.90000	56	0.000000	-36.19000
20	0.000000	0.000000	57	1.000000	0.000000
21	0.000000	-46.79000	58	2.000000	0.000000
22	0.000000	0.000000	59	0.000000	-34.21000
23	0.000000	-52.25000	60	0.000000	-51.81000
24	0.000000	-40.53000	61	0.000000	-0.4300000
25	1.000000	0.000000	62	0.000000	-44.94000
26	0.000000	-45.37000	63	0.000000	-47.32000
27	0.000000	0.000000	64	0.000000	-0.4300000
28	0.000000	-51.88000	65	0.000000	-49.52000
29	0.000000	0.000000	66	0.000000	-5.500000
30	0.000000	-46.96000	67	0.000000	-45.37000
31	0.000000	-43.08000	68	0.000000	-6.870000
32	0.000000	0.000000	69	0.000000	-6.340000
33	0.000000	-25.05000	70	0.000000	-47.01000
34	0.000000	-21.21000	71	0.000000	-2.280000
35	0.000000	-58.15000	72	1.000000	0.000000
36	0.000000	-24.47000	73	0.000000	0.000000
37	0.000000	-56.21000	74	0.000000	-49.56000
			75	0.000000	0.000000

76	0.000000	0.000000	114	1.000000	0.000000
77	0.5000000	0.000000	115	0.000000	0.000000
78	0.000000	-5.660000	116	0.000000	0.000000
79	0.000000	0.000000	117	0.000000	0.000000
80	0.000000	0.000000	118	1.000000	0.000000
81	0.000000	0.000000	119	0.000000	0.000000
82	0.000000	0.000000	120	1.000000	0.000000
83	2.000000	0.000000	121	1.000000	0.000000
84	0.000000	-1.820000	122	1.000000	0.000000
85	0.000000	-8.170000	123	0.000000	0.000000
86	0.000000	0.000000	124	0.000000	0.000000
87	0.000000	0.000000	125	0.000000	-0.2900000
88	2.000000	0.000000	126	0.000000	0.000000
89	1.000000	0.000000	127	0.000000	0.000000
90	1.000000	0.000000	128	1.000000	0.000000
91	0.000000	-43.46000	129	0.000000	0.000000
92	1.000000	0.000000	130	0.000000	0.000000
93	1.000000	0.000000	131	1.000000	0.000000
94	1.000000	0.000000	132	0.000000	-75.55000
95	0.000000	0.000000	133	0.000000	0.000000
96	0.000000	-11.19000	134	0.000000	-6.030000
97	0.000000	0.000000	135	0.000000	0.000000
98	0.000000	0.000000	136	0.000000	0.000000
99	1.000000	0.000000	137	0.000000	0.000000
100	1.000000	0.000000	138	0.000000	-9.180000
101	0.000000	0.000000	139	1.000000	0.000000
102	1.000000	0.000000	140	2.000000	0.000000
103	0.000000	-9.630000	141	1.000000	0.000000
104	0.000000	0.000000	142	0.000000	-0.1000000E-01
105	0.000000	-12.74000	143	1.000000	0.000000
106	1.000000	0.000000	144	1.000000	0.000000
107	0.000000	0.000000	145	0.000000	0.000000
108	1.000000	0.000000	146	0.000000	-2.630000
109	0.000000	0.000000	147	0.000000	0.000000
110	0.000000	-176.6500	148	0.000000	0.000000
111	1.000000	0.000000	149	0.000000	-1.370000
112	1.000000	0.000000	150	1.000000	0.000000
113	0.000000	0.000000	151	1.000000	0.000000

152	0.000000	-59.15000	190	0.000000	-25.56000
153	0.000000	0.000000	191	1.000000	0.000000
154	1.000000	0.000000	192	1.000000	0.000000
155	0.000000	-43.22000	193	1.000000	0.000000
156	1.000000	0.000000	194	0.000000	0.000000
157	2.000000	0.000000	195	0.000000	-40.28000
158	0.000000	-54.99000	196	1.000000	0.000000
159	0.000000	0.000000	197	0.000000	0.000000
160	0.000000	-45.37000	198	1.000000	0.000000
161	0.000000	0.000000	199	0.000000	-62.90000
162	0.000000	0.000000	200	0.000000	0.000000
163	0.000000	0.000000	201	0.000000	0.000000
164	0.000000	0.000000	202	1.000000	0.000000
165	0.000000	0.000000	203	0.000000	-3.950000
166	0.000000	-5.350000	204	1.000000	0.000000
167	0.5000000	0.000000	205	1.000000	0.000000
168	0.5000000	0.000000	206	1.000000	0.000000
169	1.000000	0.000000	207	1.000000	0.000000
170	0.000000	-233.0500	208	0.000000	-110.1400
171	0.000000	0.000000	209	0.000000	0.000000
172	2.000000	0.000000	210	1.000000	0.000000
173	0.000000	0.000000	211	0.000000	0.000000
174	0.000000	0.000000	212	1.000000	0.000000
175	0.000000	-41.03000	213	0.000000	-1.340000
176	0.000000	0.000000	214	1.000000	0.000000
177	1.000000	0.000000	215	0.000000	0.000000
178	0.000000	0.000000	216	0.000000	0.000000
179	1.000000	0.000000	217	1.000000	0.000000
180	0.000000	-114.7000	218	1.000000	0.000000
181	0.000000	0.000000	219	0.000000	-17.12000
182	0.000000	-2.990000	220	0.000000	0.000000
183	0.000000	0.000000	221	0.000000	-118.3100
184	1.000000	0.000000	222	0.000000	0.000000
185	1.000000	0.000000	223	0.000000	-5.870000
186	1.000000	0.000000	224	0.000000	0.000000
187	1.000000	0.000000	225	0.000000	0.000000
188	0.000000	0.000000	226	0.000000	0.000000
189	0.000000	-96.80000	227	1.000000	0.000000

228	1.000000	0.000000	266	1.000000	0.000000
229	2.000000	0.000000	267	0.000000	-2.800000
230	0.000000	-10.73000	268	0.000000	0.000000
231	0.000000	-110.5800	269	0.000000	0.000000
232	0.000000	0.000000	270	0.000000	0.000000
233	0.000000	0.000000	271	0.000000	0.000000
234	1.000000	0.000000	272	0.000000	0.000000
235	0.000000	0.000000	273	0.000000	-10.49000
236	1.000000	0.000000	274	0.000000	0.000000
237	0.000000	-2.760000	275	0.000000	0.000000
238	1.000000	0.000000	276	1.000000	0.000000
239	0.000000	0.000000	277	1.000000	0.000000
240	0.000000	0.000000	278	0.000000	0.000000
241	0.000000	-72.48000	279	1.000000	0.000000
242	0.000000	0.000000	280	1.000000	0.000000
243	1.000000	0.000000	281	0.000000	0.000000
244	0.000000	-49.96000	282	0.000000	0.000000
245	0.000000	0.000000	283	0.000000	-21.36000
246	1.000000	0.000000	284	0.000000	-57.30000
247	1.000000	0.000000	285	0.000000	0.000000
248	1.000000	0.000000	286	0.000000	0.000000
249	1.000000	0.000000	287	0.000000	0.000000
250	0.000000	-94.50000	288	0.000000	0.000000
251	0.000000	-52.51000	289	0.000000	0.000000
252	0.000000	0.000000	290	0.000000	0.000000
253	0.000000	-71.21000	291	0.000000	-87.00000
254	1.000000	0.000000	292	0.000000	0.000000
255	0.5000000	0.000000	293	0.000000	0.000000
256	0.5000000	0.000000	294	0.000000	0.000000
257	0.5000000	0.000000	295	0.000000	0.000000
258	0.000000	-33.82000	296	0.000000	0.000000
259	1.000000	0.000000	297	1.000000	0.000000
260	2.000000	0.000000	298	0.000000	0.000000
261	1.000000	0.000000	299	1.000000	0.000000
262	1.000000	0.000000	300	1.000000	0.000000
263	1.000000	0.000000	301	0.000000	0.000000
264	1.000000	0.000000	302	0.000000	0.000000
265	0.000000	-1.240000	303	0.000000	-28.49000

304	1.000000	0.000000	323	0.000000	0.000000
305	1.000000	0.000000	324	1.000000	0.000000
306	1.000000	0.000000	325	0.000000	0.000000
307	1.000000	0.000000	326	0.000000	-5.430000
308	0.000000	-8.750000	327	0.000000	0.000000
309	1.000000	0.000000	328	2.000000	0.000000
310	2.000000	0.000000	329	1.000000	0.000000
311	0.000000	0.000000	330	0.000000	0.000000
312	0.000000	0.000000	331	0.000000	0.000000
313	1.000000	0.000000	332	0.000000	0.000000
314	1.000000	0.000000	333	1.000000	0.000000
315	1.000000	0.000000	334	0.000000	0.000000
316	0.000000	0.000000	335	2.000000	0.000000
317	1.000000	0.000000	336	0.000000	0.000000
318	0.000000	0.000000	337	0.000000	0.000000
319	0.000000	0.000000	338	1.000000	0.000000
320	0.000000	0.000000	339	1.000000	0.000000
321	1.000000	0.000000	340	0.000000	-7.980000
322	0.000000	0.000000	341	1.000000	0.000000

Mapa 16

Global optimal solution found.

Objective value: 7739.945

Infeasibilities: 0.000000

Total solver iterations: 155

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X014015	1.000000	0.000000
X001111	1.000000	0.000000	X014026	0.000000	24.24670
X001009	0.000000	132.3714	X015016	0.000000	0.000000
X002003	1.000000	0.000000	X015025	1.000000	0.000000
X002007	0.000000	0.000000	X016017	0.000000	60.94180
X003113	1.000000	0.000000	X016024	1.000000	0.000000
X004005	1.000000	0.000000	X017018	1.000000	0.000000
X004113	1.000000	0.000000	X017022	1.000000	0.000000
X005006	0.000000	4.241000	X018019	0.000000	0.000000
X005115	1.000000	0.000000	X018021	1.000000	0.000000
X006007	0.000000	19.63530	X019020	1.000000	0.000000
X006113	1.000000	0.000000	X020021	1.000000	0.000000
X006114	1.000000	0.000000	X020032	0.000000	18.02350
X007008	1.000000	0.000000	X021022	0.000000	0.000000
X007011	1.000000	0.000000	X021031	0.000000	26.32400
X008112	1.000000	0.000000	X022023	1.000000	0.000000
X008010	0.000000	0.000000	X022030	0.000000	52.38400
X009010	1.000000	0.000000	X023024	1.000000	0.000000
X009019	1.000000	0.000000	X023029	0.000000	0.000000
X009112	0.000000	0.000000	X024025	1.000000	0.000000
X010011	1.000000	0.000000	X024028	0.000000	104.0171
X011012	0.000000	94.93600	X025027	0.000000	17.25660
X011017	0.000000	0.000000	X026036	1.000000	0.000000
X012013	0.000000	52.80270	X026027	1.000000	0.000000
X012016	1.000000	0.000000	X027028	1.000000	0.000000
X012114	1.000000	0.000000	X028029	1.000000	0.000000
X013014	1.000000	0.000000	X028035	0.000000	0.000000
X013115	1.000000	0.000000	X029030	1.000000	0.000000
			X030031	1.000000	0.000000

X030034	0.000000	0.000000	X055056	0.000000	5.829300
X031032	1.000000	0.000000	X056057	1.000000	0.000000
X032033	1.000000	0.000000	X056061	1.000000	0.000000
X033034	1.000000	0.000000	X057058	1.000000	0.000000
X034035	1.000000	0.000000	X057073	0.000000	112.5356
X035036	1.000000	0.000000	X058059	1.000000	0.000000
X036037	1.000000	0.000000	X059060	1.000000	0.000000
X037116	1.000000	0.000000	X061062	1.000000	0.000000
X038116	1.000000	0.000000	X061065	0.000000	113.7389
X038039	1.000000	0.000000	X062063	1.000000	0.000000
X039040	1.000000	0.000000	X062072	0.000000	0.000000
X040116	0.000000	0.000000	X063064	1.000000	0.000000
X040041	1.000000	0.000000	X063071	0.000000	0.000000
X041042	1.000000	0.000000	X064066	1.000000	0.000000
X042043	0.000000	144.2476	X064070	0.000000	10.48030
X042060	1.000000	0.000000	X065066	1.000000	0.000000
X043044	1.000000	0.000000	X066069	0.000000	9.685800
X043046	0.000000	0.000000	X067068	0.000000	64.78045
X043048	1.000000	0.000000	X068069	1.000000	0.000000
X044045	1.000000	0.000000	X068110	1.000000	0.000000
X045046	1.000000	0.000000	X069070	1.000000	0.000000
X046047	1.000000	0.000000	X070106	1.000000	0.000000
X047048	0.000000	0.000000	X071072	1.000000	0.000000
X047051	1.000000	0.000000	X071105	1.000000	0.000000
X048049	1.000000	0.000000	X072073	1.000000	0.000000
X048060	0.000000	128.6910	X073074	1.000000	0.000000
X049050	1.000000	0.000000	X074075	1.000000	0.000000
X049059	0.000000	141.3862	X074105	0.000000	102.0357
X050051	1.000000	0.000000	X075076	1.000000	0.000000
X050055	1.000000	0.000000	X075080	0.000000	82.33440
X050058	0.000000	134.5472	X076077	0.000000	0.000000
X051052	0.000000	57.65995	X076104	1.000000	0.000000
X052053	1.000000	0.000000	X077078	1.000000	0.000000
X052067	1.000000	0.000000	X077103	1.000000	0.000000
X053054	0.000000	40.43105	X078079	1.000000	0.000000
X053067	1.000000	0.000000	X078100	0.000000	18.94990
X054055	1.000000	0.000000	X079080	1.000000	0.000000
X054065	1.000000	0.000000	X079088	0.000000	72.20860

X080081	1.000000	0.000000	X104105	1.000000	0.000000
X081082	1.000000	0.000000	X105106	1.000000	0.000000
X081087	0.000000	152.1056	X106107	0.000000	0.000000
X082083	1.000000	0.000000	X107108	1.000000	0.000000
X082086	0.000000	96.31500	X107110	1.000000	0.000000
X083084	1.000000	0.000000	X111112	1.000000	0.000000
X083085	0.000000	118.2283	X114115	0.000000	47.88100
X084085	1.000000	0.000000			
X085086	1.000000	0.000000	Row	Slack or Surplus	Dual Price
X086087	1.000000	0.000000	1	7739.945	-1.000000
X087088	1.000000	0.000000	2	0.000000	-43.01890
X088089	1.000000	0.000000	3	0.000000	-37.66440
X089090	1.000000	0.000000	4	0.000000	-38.43280
X089100	1.000000	0.000000	5	0.000000	0.000000
X090091	1.000000	0.000000	6	0.000000	-57.26680
X090097	0.000000	0.000000	7	0.000000	-17.88660
X091092	1.000000	0.000000	8	0.000000	0.000000
X092093	1.000000	0.000000	9	0.000000	-40.99160
X092117	1.000000	0.000000	10	0.000000	-21.76270
X093094	1.000000	0.000000	11	0.000000	-4.431300
X094095	1.000000	0.000000	12	0.000000	-40.42600
X094110	0.000000	0.000000	13	0.000000	0.000000
X095096	0.000000	0.000000	14	0.000000	-10.50640
X095109	1.000000	0.000000	15	0.000000	-37.72560
X095117	0.000000	0.000000	16	0.000000	0.000000
X096097	1.000000	0.000000	17	0.000000	-23.09480
X096117	1.000000	0.000000	18	0.000000	0.000000
X097098	1.000000	0.000000	19	0.000000	-36.80880
X097100	0.000000	5.495900	20	0.000000	-19.80020
X098099	0.000000	0.000000	21	0.000000	-45.56390
X098109	1.000000	0.000000	22	0.000000	-18.91120
X099101	1.000000	0.000000	23	1.000000	0.000000
X099108	1.000000	0.000000	24	0.000000	-28.08440
X100101	1.000000	0.000000	25	0.000000	-40.90390
X101102	1.000000	0.000000	26	0.000000	0.000000
X102103	1.000000	0.000000	27	0.000000	-9.336900
X102106	0.000000	37.37700	28	0.000000	-44.51470
X103104	0.000000	3.808000	29	0.000000	0.000000

30	0.000000	0.000000	68	0.000000	-18.73030
31	0.000000	-53.94020	69	0.000000	-50.99140
32	0.000000	-66.36510	70	0.000000	0.000000
33	0.000000	-56.34590	71	0.000000	-12.38480
34	1.000000	0.000000	72	0.000000	-49.84090
35	0.000000	-31.17150	73	0.000000	0.000000
36	0.000000	0.000000	74	0.000000	-51.45430
37	0.000000	-46.08840	75	0.000000	0.000000
38	0.000000	-46.54620	76	0.000000	-26.78370
39	0.000000	-48.40520	77	0.000000	-26.71570
40	0.000000	-6.946400	78	0.000000	-23.42580
41	0.000000	-40.74170	79	0.000000	-30.64760
42	1.000000	0.000000	80	1.000000	0.000000
43	0.000000	-52.04780	81	0.000000	-22.84750
44	0.000000	-44.34425	82	1.000000	0.000000
45	0.000000	-13.00565	83	0.000000	-25.43430
46	0.000000	-0.5391000	84	0.000000	-25.98080
47	0.000000	-42.03470	85	0.000000	-49.26740
48	0.000000	-50.22620	86	0.000000	0.000000
49	0.000000	-5.850700	87	0.000000	-50.00290
50	0.000000	-47.18380	88	0.000000	-16.43490
51	0.000000	-3.470100	89	0.000000	-54.12070
52	0.000000	-48.40660	90	1.000000	0.000000
53	0.000000	0.000000	91	0.000000	-37.11960
54	0.000000	-50.63210	92	0.000000	-8.932900
55	0.000000	-2.482300	93	0.000000	-40.26440
56	0.000000	-48.89910	94	1.000000	0.000000
57	0.000000	-51.47110	95	0.000000	-52.53710
58	0.000000	0.000000	96	0.000000	-0.7577000
59	0.000000	-47.59055	97	0.000000	-64.72520
60	0.000000	0.000000	98	0.000000	-23.06760
61	0.000000	-48.90490	99	1.000000	0.000000
62	0.000000	-7.762600	100	0.000000	-35.35660
63	0.000000	-53.03470	101	0.000000	-0.2601000
64	0.000000	0.000000	102	0.000000	0.000000
65	0.000000	-47.20150	103	0.000000	-32.33570
66	0.000000	-18.00130	104	1.000000	0.000000
67	0.000000	-43.64870	105	1.000000	0.000000

106	0.000000	-31.17100	144	0.000000	-117.0985
107	0.000000	0.000000	145	0.000000	0.000000
108	0.000000	0.000000	146	1.000000	0.000000
109	1.000000	0.000000	147	0.000000	-2.318500
110	1.000000	0.000000	148	0.000000	-95.20760
111	1.000000	0.000000	149	0.000000	-1.288600
112	1.000000	0.000000	150	0.000000	0.000000
113	0.000000	0.000000	151	0.000000	0.000000
114	0.000000	0.000000	152	1.000000	0.000000
115	1.000000	0.000000	153	1.000000	0.000000
116	0.000000	0.000000	154	1.000000	0.000000
117	1.000000	0.000000	155	0.000000	0.000000
118	0.000000	0.000000	156	0.000000	0.000000
119	0.000000	-3.782900	157	0.000000	0.000000
120	1.000000	0.000000	158	1.000000	0.000000
121	0.000000	-28.48660	159	0.000000	-15.29380
122	0.000000	0.000000	160	1.000000	0.000000
123	1.000000	0.000000	161	0.000000	0.000000
124	0.000000	0.000000	162	0.000000	0.000000
125	0.000000	0.000000	163	0.000000	0.000000
126	1.000000	0.000000	164	1.000000	0.000000
127	1.000000	0.000000	165	1.000000	0.000000
128	1.000000	0.000000	166	1.000000	0.000000
129	0.000000	-54.00640	167	1.000000	0.000000
130	0.000000	0.000000	168	0.000000	0.000000
131	1.000000	0.000000	169	1.000000	0.000000
132	0.000000	0.000000	170	1.000000	0.000000
133	1.000000	0.000000	171	0.000000	0.000000
134	0.000000	-64.34680	172	0.000000	0.000000
135	0.000000	0.000000	173	0.000000	0.000000
136	0.000000	-25.53200	174	0.000000	0.000000
137	0.000000	0.000000	175	0.000000	0.000000
138	0.000000	0.000000	176	0.000000	-7.074200
139	1.000000	0.000000	177	1.000000	0.000000
140	0.000000	-113.3160	178	1.000000	0.000000
141	0.000000	-96.65080	179	0.000000	0.000000
142	0.000000	0.000000	180	0.000000	0.000000
143	0.000000	0.000000	181	1.000000	0.000000

182	1.000000	0.000000	220	0.000000	-18.05660
183	0.000000	0.000000	221	0.000000	0.000000
184	1.000000	0.000000	222	0.000000	-13.59860
185	1.000000	0.000000	223	0.000000	-58.51600
186	1.000000	0.000000	224	0.000000	-83.43310
187	0.000000	-161.1540	225	0.000000	0.000000
188	0.000000	0.000000	226	1.000000	0.000000
189	0.000000	0.000000	227	1.000000	0.000000
190	0.000000	0.000000	228	0.000000	0.000000
191	0.000000	0.000000	229	0.000000	-42.05970
192	1.000000	0.000000	230	1.000000	0.000000
193	1.000000	0.000000	231	0.000000	0.000000
194	0.000000	-75.90540	232	1.000000	0.000000
195	1.000000	0.000000	233	1.000000	0.000000
196	0.000000	-51.65780	234	0.000000	-41.16300
197	1.000000	0.000000	235	0.000000	0.000000
198	0.000000	0.000000	236	1.000000	0.000000
199	0.000000	0.000000	237	1.000000	0.000000
200	1.000000	0.000000	238	0.000000	0.000000
201	0.000000	0.000000	239	0.000000	0.000000
202	0.000000	0.000000	240	0.000000	0.000000
203	1.000000	0.000000	241	0.000000	0.000000
204	1.000000	0.000000	242	1.000000	0.000000
205	1.000000	0.000000	243	0.000000	-39.68590
206	1.000000	0.000000	244	1.000000	0.000000
207	0.000000	0.000000	245	0.000000	-24.11050
208	1.000000	0.000000	246	1.000000	0.000000
209	0.000000	0.000000	247	1.000000	0.000000
210	0.000000	0.000000	248	0.000000	0.000000
211	0.000000	-52.57600	249	1.000000	0.000000
212	0.000000	-23.64300	250	0.000000	0.000000
213	0.000000	0.000000	251	1.000000	0.000000
214	0.000000	0.000000	252	1.000000	0.000000
215	0.000000	0.000000	253	0.000000	-54.16390
216	1.000000	0.000000	254	1.000000	0.000000
217	1.000000	0.000000	255	1.000000	0.000000
218	1.000000	0.000000	256	1.000000	0.000000
219	1.000000	0.000000	257	0.000000	-60.13690

258	0.000000	-29.20520	296	0.000000	0.000000
259	0.000000	-72.92350	297	1.000000	0.000000
260	0.000000	0.000000	298	0.000000	-39.41650
261	0.000000	-270.6120	299	0.000000	0.000000
262	0.000000	0.000000	300	1.000000	0.000000
263	0.000000	0.000000	301	0.000000	-0.1660000E-01
264	0.000000	0.000000	302	0.000000	0.000000
265	0.000000	-2.885100	303	0.000000	0.000000
266	1.000000	0.000000	304	0.000000	-27.85150
267	0.000000	0.000000	305	1.000000	0.000000
268	1.000000	0.000000	306	1.000000	0.000000
269	0.000000	0.000000	307	1.000000	0.000000
270	1.000000	0.000000	308	1.000000	0.000000
271	0.000000	0.000000	309	1.000000	0.000000
272	1.000000	0.000000	310	0.000000	-27.55210
273	0.000000	0.000000	311	0.000000	-104.6030
274	1.000000	0.000000	312	1.000000	0.000000
275	0.000000	0.000000	313	0.000000	-121.3467
276	1.000000	0.000000	314	0.000000	0.000000
277	0.000000	0.000000	315	1.000000	0.000000
278	1.000000	0.000000	316	1.000000	0.000000
279	1.000000	0.000000	317	0.000000	0.000000
280	0.000000	0.000000	318	0.000000	0.000000
281	0.000000	0.000000	319	1.000000	0.000000
282	0.000000	-1.241900	320	0.000000	0.000000
283	0.000000	0.000000	321	1.000000	0.000000
284	0.000000	0.000000	322	0.000000	-3.689300
285	0.000000	0.000000	323	0.000000	0.000000
286	0.000000	0.000000	324	0.000000	-18.27750
287	0.000000	0.000000	325	2.000000	0.000000
288	1.000000	0.000000	326	1.000000	0.000000
289	1.000000	0.000000	327	1.000000	0.000000
290	1.000000	0.000000	328	0.000000	-56.40740
291	1.000000	0.000000	329	0.000000	-15.91640
292	1.000000	0.000000	330	0.000000	-7.791900
293	1.000000	0.000000	331	0.000000	-39.62190
294	0.000000	0.000000	332	0.000000	-29.78430
295	0.000000	0.000000	333	1.000000	0.000000

334	0.000000	0.000000	372	1.000000	0.000000
335	0.000000	-2.173200	373	1.000000	0.000000
336	0.000000	0.000000	374	0.000000	0.000000
337	0.000000	-15.65000	375	1.000000	0.000000
338	0.000000	0.000000	376	0.000000	0.000000
339	0.000000	0.000000	377	0.000000	-3.407000
340	1.000000	0.000000	378	1.000000	0.000000
341	0.000000	0.000000	379	0.000000	0.000000
342	0.000000	0.000000	380	0.000000	0.000000
343	0.000000	0.000000	381	1.000000	0.000000
344	0.000000	0.000000	382	0.000000	0.000000
345	0.000000	-15.52540	383	0.000000	-9.539000
346	1.000000	0.000000	384	0.000000	0.000000
347	0.000000	0.000000	385	0.000000	0.000000
348	0.000000	0.000000	386	0.000000	0.000000
349	0.000000	0.000000	387	0.000000	0.000000
350	1.000000	0.000000	388	1.000000	0.000000
351	1.000000	0.000000	389	0.000000	0.000000
352	0.000000	0.000000	390	0.000000	0.000000
353	1.000000	0.000000	391	0.000000	0.000000
354	1.000000	0.000000	392	0.000000	0.000000
355	0.000000	-4.665500	393	1.000000	0.000000
356	1.000000	0.000000	394	0.000000	-6.612600
357	0.000000	0.000000	395	0.000000	0.000000
358	0.000000	0.000000	396	0.000000	0.000000
359	1.000000	0.000000	397	0.000000	0.000000
360	0.000000	0.000000	398	0.000000	-0.6773000
361	0.000000	0.000000	399	0.000000	-9.497400
362	0.000000	-42.18350	400	0.000000	-13.90460
363	0.000000	0.000000	401	0.000000	0.000000
364	0.000000	-6.799200	402	0.000000	0.000000
365	0.000000	-13.10710	403	0.000000	0.000000
366	0.000000	0.000000	404	1.000000	0.000000
367	0.000000	0.000000	405	0.000000	0.000000
368	0.000000	0.000000	406	0.000000	0.000000
369	0.000000	-19.66810	407	0.000000	0.000000
370	1.000000	0.000000	408	0.000000	0.000000
371	1.000000	0.000000	409	0.000000	0.000000

410	0.000000	0.000000	435	1.000000	0.000000
411	0.000000	0.000000	436	0.000000	0.000000
412	0.000000	0.000000	437	0.000000	0.000000
413	0.000000	0.000000	438	0.000000	0.000000
414	0.000000	0.000000	439	1.000000	0.000000
415	0.000000	0.000000	440	0.000000	-42.12070
416	1.000000	0.000000	441	0.000000	-3.876200
417	0.000000	0.000000	442	1.000000	0.000000
418	1.000000	0.000000	443	1.000000	0.000000
419	0.000000	0.000000	444	0.000000	0.000000
420	0.000000	0.000000	445	0.000000	0.000000
421	0.000000	-14.28390	446	0.000000	-18.06370
422	0.000000	0.000000	447	1.000000	0.000000
423	1.000000	0.000000	448	1.000000	0.000000
424	0.000000	-2.001500	449	2.000000	0.000000
425	1.000000	0.000000	450	1.000000	0.000000
426	1.000000	0.000000	451	1.000000	0.000000
427	0.000000	0.000000	452	0.000000	0.000000
428	0.000000	0.000000	453	1.000000	0.000000
429	1.000000	0.000000	454	2.000000	0.000000
430	1.000000	0.000000	455	1.000000	0.000000
431	0.000000	0.000000	456	1.000000	0.000000
432	0.000000	0.000000	457	0.000000	-29.93190
433	1.000000	0.000000	458	1.000000	0.000000
434	1.000000	0.000000	459	1.000000	0.000000

Mapa 17

Global optimal solution found.

Objective value: 12583.07

Infeasibilities: 0.000000

Total solver iterations: 264

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X019024	1.000000	0.000000
X001003	1.000000	0.000000	X020023	1.000000	0.000000
X002005	1.000000	0.000000	X021022	1.000000	0.000000
X003004	1.000000	0.000000	X021036	1.000000	0.000000
X003006	0.000000	170.1069	X022023	1.000000	0.000000
X004007	1.000000	0.000000	X023033	0.000000	27.94070
X005006	1.000000	0.000000	X024025	1.000000	0.000000
X005014	0.000000	57.16170	X024026	0.000000	238.6936
X006007	0.000000	18.90550	X025032	1.000000	0.000000
X006010	1.000000	0.000000	X025027	0.000000	155.4080
X007008	1.000000	0.000000	X026030	1.000000	0.000000
X007011	1.000000	0.000000	X026027	1.000000	0.000000
X008009	1.000000	0.000000	X027028	1.000000	0.000000
X008012	0.000000	0.000000	X027068	1.000000	0.000000
X009013	1.000000	0.000000	X028194	1.000000	0.000000
X010011	0.000000	379.1453	X028084	0.000000	139.9026
X010015	1.000000	0.000000	X029030	1.000000	0.000000
X011012	1.000000	0.000000	X029071	0.000000	86.69270
X012013	1.000000	0.000000	X030031	0.000000	9.670300
X014015	1.000000	0.000000	X031081	1.000000	0.000000
X014016	1.000000	0.000000	X031075	1.000000	0.000000
X015018	1.000000	0.000000	X032033	1.000000	0.000000
X016017	1.000000	0.000000	X033034	0.000000	0.000000
X016019	0.000000	165.1552	X033059	1.000000	0.000000
X017020	0.000000	322333.0	X033057	0.000000	129.3038
X017018	1.000000	0.000000	X034035	1.000000	0.000000
X018021	0.000000	0.000000	X034195	1.000000	0.000000
X019020	1.000000	0.000000	X035054	1.000000	0.000000
			X035036	0.000000	6.975100

X036037	1.000000	0.000000	X061062	1.000000	0.000000
X036050	0.000000	0.000000	X061068	0.000000	99.34780
X037038	1.000000	0.000000	X062063	1.000000	0.000000
X037047	0.000000	110.4712	X062065	0.000000	6.755200
X038039	1.000000	0.000000	X063064	1.000000	0.000000
X038045	0.000000	64.52530	X063066	0.000000	39.97560
X039040	0.000000	17.41960	X064105	0.000000	0.000000
X039042	1.000000	0.000000	X064067	0.000000	68.74550
X040041	1.000000	0.000000	X065066	1.000000	0.000000
X040043	1.000000	0.000000	X065069	1.000000	0.000000
X041044	1.000000	0.000000	X066067	1.000000	0.000000
X042043	1.000000	0.000000	X067083	1.000000	0.000000
X042045	0.000000	0.000000	X068069	1.000000	0.000000
X043044	0.000000	0.000000	X069083	0.000000	97.00100
X043046	0.000000	8.112300	X070071	1.000000	0.000000
X044049	1.000000	0.000000	X070085	0.5000000	0.000000
X045046	1.000000	0.000000	X071072	1.000000	0.000000
X045047	1.000000	0.000000	X071086	0.000000	40.56130
X046048	1.000000	0.000000	X072073	1.000000	0.000000
X047052	1.000000	0.000000	X072087	0.000000	36.58210
X048049	1.000000	0.000000	X073074	1.000000	0.000000
X048053	1.000000	0.000000	X073088	0.000000	0.000000
X050051	1.000000	0.000000	X074076	1.000000	0.000000
X050054	1.000000	0.000000	X074089	0.000000	50.59950
X051052	1.000000	0.000000	X075077	1.000000	0.000000
X051055	0.000000	92.09200	X075076	0.000000	1.728800
X052056	0.000000	124.4081	X076090	0.000000	26.22720
X052053	1.000000	0.000000	X076078	1.000000	0.000000
X053058	0.000000	151.8913	X077078	0.000000	7.012600
X055056	1.000000	0.000000	X077079	1.000000	0.000000
X056057	1.000000	0.000000	X078091	0.000000	36.01110
X057058	1.000000	0.000000	X078080	1.000000	0.000000
X058119	0.000000	71.92360	X079080	0.000000	3.574800
X059060	0.000000	0.000000	X079081	1.000000	0.000000
X059061	1.000000	0.000000	X080092	0.000000	27.73140
X058060	1.000000	0.000000	X080082	1.000000	0.000000
X060121	0.000000	109.1050	X081082	0.000000	0.000000
X060064	1.000000	0.000000	X082093	1.000000	0.000000

X083084	0.5000000	0.000000	X106122	0.000000	104.0524
X084095	1.000000	0.000000	X106107	1.000000	0.000000
X084085	0.000000	0.000000	X107108	1.000000	0.000000
X085086	1.000000	0.000000	X107123	0.000000	0.000000
X086087	1.000000	0.000000	X108109	0.000000	0.000000
X086097	0.000000	0.6700000E-	X108124	1.000000	0.000000
01			X109126	0.000000	0.000000
X087099	0.000000	0.000000	X109110	1.000000	0.000000
X087088	1.000000	0.000000	X110128	0.000000	8.873000
X088100	0.000000	1.525100	X110111	0.000000	9.403300
X088089	1.000000	0.000000	X111130	0.000000	36.67450
X089090	1.000000	0.000000	X111112	1.000000	0.000000
X090102	0.000000	0.000000	X112131	0.000000	5.479600
X090091	1.000000	0.000000	X112113	1.000000	0.000000
X091092	1.000000	0.000000	X113114	1.000000	0.000000
X092093	1.000000	0.000000	X113132	0.000000	31.11220
X092104	1.000000	0.000000	X114115	1.000000	0.000000
X093118	0.000000	0.000000	X114133	0.000000	30.71390
X094105	1.000000	0.000000	X115116	1.000000	0.000000
X094109	1.000000	0.000000	X115134	0.000000	31.67040
X095096	1.000000	0.000000	X116136	0.000000	31.12730
X095097	0.000000	48.37700	X116117	1.000000	0.000000
X096110	1.000000	0.000000	X117137	0.000000	11.11160
X096098	0.000000	0.000000	X117118	1.000000	0.000000
X097098	1.000000	0.000000	X118140	1.000000	0.000000
X097099	1.000000	0.000000	X119120	1.000000	0.000000
X098111	1.000000	0.000000	X119121	1.000000	0.000000
X099198	1.000000	0.000000	X120158	1.000000	0.000000
X100198	1.000000	0.000000	X120125	0.000000	68.74580
X100101	1.000000	0.000000	X121122	1.000000	0.000000
X101102	1.000000	0.000000	X122123	1.000000	0.000000
X101114	0.000000	27.99390	X123124	1.000000	0.000000
X102103	1.000000	0.000000	X124125	0.000000	0.000000
X102115	0.000000	42.63450	X125127	1.000000	0.000000
X103104	1.000000	0.000000	X125149	1.000000	0.000000
X103116	0.000000	32.54930	X126127	1.000000	0.000000
X104117	0.000000	7.878900	X127129	0.000000	0.000000
X105106	1.000000	0.000000	X126128	1.000000	0.000000

X128130	1.000000	0.000000	X156165	1.000000	0.000000
X129147	1.000000	0.000000	X156157	0.5000000	0.000000
X129142	1.000000	0.000000	X157166	1.000000	0.000000
X130131	1.000000	0.000000	X158177	0.000000	0.000000
X131142	1.000000	0.000000	X158197	1.000000	0.000000
X131132	1.000000	0.000000	X159160	1.000000	0.000000
X132143	1.000000	0.000000	X159175	0.000000	77.55920
X133144	1.000000	0.000000	X160161	0.000000	0.000000
X133135	1.000000	0.000000	X161162	1.000000	0.000000
X134135	1.000000	0.000000	X161163	1.000000	0.000000
X134136	1.000000	0.000000	X162164	1.000000	0.000000
X135138	0.000000	30.13840	X163164	0.000000	0.000000
X136137	1.000000	0.000000	X163199	1.000000	0.000000
X137138	1.000000	0.000000	X164200	1.000000	0.000000
X138139	1.000000	0.000000	X165166	0.000000	42.34465
X139144	1.000000	0.000000	X166167	1.000000	0.000000
X140141	1.000000	0.000000	X166171	0.000000	128.0337
X141168	1.000000	0.000000	X167168	1.000000	0.000000
X143145	1.000000	0.000000	X167170	0.000000	90.61680
X143144	0.000000	0.000000	X168169	0.000000	0.000000
X145146	0.5000000	0.000000	X169192	1.000000	0.000000
X145154	0.5000000	0.000000	X169170	1.000000	0.000000
X146147	1.000000	0.000000	X170189	0.000000	0.000000
X146154	0.5000000	0.000000	X170171	1.000000	0.000000
X147148	0.000000	0.000000	X171172	1.000000	0.000000
X147153	0.000000	22.70635	X172200	0.000000	87.58490
X148149	1.000000	0.000000	X172173	0.5000000	0.000000
X148152	1.000000	0.000000	X172183	0.5000000	0.000000
X150160	1.000000	0.000000	X173174	1.000000	0.000000
X150151	1.000000	0.000000	X164173	0.000000	14.01260
X151152	1.000000	0.000000	X173183	0.5000000	0.000000
X151161	0.000000	16.62120	X173199	0.000000	25.89560
X152162	0.000000	39.82650	X173182	0.000000	106.2246
X153154	1.000000	0.000000	X174199	0.000000	0.000000
X153155	1.000000	0.000000	X174175	1.000000	0.000000
X155157	0.5000000	0.000000	X174181	0.000000	54.24400
X155156	0.5000000	0.000000	X175180	0.000000	0.000000
X156164	0.000000	2.305750	X175176	1.000000	0.000000

X176177	1.000000	0.000000	7	0.000000	-58.88230
X176179	0.000000	93.85900	8	0.000000	-26.96880
X177178	1.000000	0.000000	9	0.000000	-27.97030
X178179	1.000000	0.000000	10	0.000000	-55.01340
X179180	1.000000	0.000000	11	1.000000	0.000000
X180181	1.000000	0.000000	12	0.000000	-55.24360
X181182	1.000000	0.000000	13	0.000000	0.000000
X182184	1.000000	0.000000	14	0.000000	-97.41530
X183184	1.000000	0.000000	15	0.000000	-44.52980
X184185	0.000000	0.000000	16	0.000000	0.000000
X185193	1.000000	0.000000	17	0.000000	-62.76500
X186187	1.000000	0.000000	18	0.000000	-43.99800
X186189	1.000000	0.000000	19	0.000000	0.000000
X187188	1.000000	0.000000	20	0.000000	-63.70970
X187190	0.000000	35.74300	21	0.000000	-12.60410
X188191	0.000000	0.000000	22	1.000000	0.000000
X185188	1.000000	0.000000	23	0.000000	0.000000
X189190	1.000000	0.000000	24	0.000000	-19.53530
X190191	1.000000	0.000000	25	0.000000	-45.66780
X191192	1.000000	0.000000	26	0.000000	-84.02170
X192193	1.000000	0.000000	27	0.000000	0.000000
X070194	0.000000	25.99090	28	0.000000	-47.34460
X029194	1.000000	0.000000	29	0.000000	-7.708600
X054195	0.000000	0.000000	30	0.000000	-48.92560
X055195	1.000000	0.000000	31	0.000000	0.000000
X176197	0.000000	169.5574	32	0.000000	-48.24220
X159197	1.000000	0.000000	33	0.000000	-5.761700
X199200	1.000000	0.000000	34	0.000000	-42.36960
X173200	0.000000	92.98480	35	0.000000	-32.73020
X165200	1.000000	0.000000	36	0.000000	-7.640900
			37	0.000000	-29.81490
			38	0.000000	-11.69650
			39	0.000000	-29.84090
			40	0.000000	-19.86690
			41	1.000000	0.000000
			42	0.000000	0.000000
			43	0.000000	-47.98560
			44	1.000000	0.000000
Row	Slack or Surplus	Dual Price			
1	12583.07	-1.000000			
2	0.000000	-39.79900			
3	0.000000	-17.11890			
4	0.000000	-35.75510			
5	1.000000	0.000000			
6	0.000000	-51.43510			

45	0.000000	-40.34140	83	0.000000	-23.61670
46	0.000000	-62.47140	84	1.000000	0.000000
47	0.000000	0.000000	85	0.000000	-44.56330
48	0.000000	-45.57490	86	0.000000	-8.873150
49	0.000000	-11.19120	87	0.000000	-23.14870
50	0.000000	-11.00500	88	0.000000	-2.499400
51	0.000000	-63.88350	89	0.000000	-34.75920
52	0.000000	-52.14540	90	0.000000	-30.63000
53	0.000000	-3.112400	91	0.000000	-31.40000
54	0.000000	-53.34910	92	0.000000	-7.346500
55	0.000000	-56.18290	93	0.000000	-27.84710
56	0.000000	0.000000	94	0.000000	-4.537000
57	0.000000	-55.64870	95	0.000000	-29.66090
58	0.000000	-11.24750	96	0.000000	-53.81640
59	0.000000	-42.49250	97	0.000000	-0.3480000E-01
60	0.000000	-50.46930	98	0.000000	-49.18500
61	0.000000	0.000000	99	0.000000	-7.081770
62	0.000000	-34.32829	100	0.000000	0.000000
63	0.000000	0.000000	101	0.000000	0.000000
64	0.000000	-0.3922000	102	0.000000	-0.6785000
65	0.000000	-36.77920	103	0.000000	-32.45050
66	0.000000	0.000000	104	0.000000	-3.654700
67	0.000000	0.000000	105	0.000000	-34.95290
68	0.000000	-34.95280	106	0.000000	0.000000
69	0.000000	-10.45890	107	0.000000	-34.28270
70	0.000000	0.000000	108	0.000000	0.000000
71	0.000000	-23.82370	109	0.000000	-37.40470
72	0.000000	-37.25830	110	0.000000	-15.30930
73	0.000000	-43.25110	111	0.000000	-39.60860
74	0.000000	0.000000	112	0.000000	-52.48660
75	0.000000	-7.498000	113	0.000000	-0.4058000
76	0.000000	-28.71985	114	0.000000	-52.77600
77	0.000000	-1.392000	115	0.000000	0.000000
78	0.000000	-31.64930	116	0.000000	-5.076900
79	0.000000	-2.498900	117	0.000000	-19.72740
80	0.000000	-35.82930	118	0.000000	-11.19200
81	0.000000	-3.077500	119	0.000000	-16.13620
82	0.000000	-10.76040	120	0.000000	-8.570200

121	0.000000	-33.12900	159	0.000000	-39.31760
122	1.000000	0.000000	160	0.000000	-53.03420
123	0.000000	-30.49840	161	0.000000	0.000000
124	0.000000	-33.81420	162	0.000000	-65.10560
125	0.000000	-32.85780	163	0.000000	-54.54380
126	0.000000	-1.623400	164	0.000000	0.000000
127	0.000000	-0.2710000	165	0.000000	-8.121000
128	0.000000	0.000000	166	0.000000	-45.93240
129	0.000000	-35.16690	167	0.000000	-46.75680
130	0.000000	-34.70320	168	0.000000	0.000000
131	0.000000	-2.390100	169	0.000000	-16.72630
132	0.000000	0.000000	170	0.000000	-32.70980
133	0.000000	-3.842900	171	0.000000	-14.72810
134	0.000000	-35.33060	172	0.000000	-37.40010
135	0.000000	-18.72810	173	0.000000	0.000000
136	0.000000	-51.80060	174	0.000000	-52.09890
137	0.000000	0.000000	175	1.000000	0.000000
138	0.000000	-3.536750	176	0.000000	-21.73740
139	0.000000	-32.79465	177	0.000000	-18.16860
140	0.000000	-50.07605	178	0.000000	-24.60660
141	0.000000	-1.018050	179	0.000000	-41.34690
142	0.000000	-80.46910	180	1.000000	0.000000
143	0.000000	-49.46470	181	0.000000	0.000000
144	0.000000	-30.14940	182	0.000000	-157.5870
145	0.000000	-15.54480	183	1.000000	0.000000
146	0.000000	-39.26680	184	0.000000	0.000000
147	0.000000	0.000000	185	1.000000	0.000000
148	0.000000	-8.899000	186	1.000000	0.000000
149	0.000000	-46.28750	187	1.000000	0.000000
150	0.000000	-53.60960	188	1.000000	0.000000
151	0.000000	0.000000	189	0.000000	-2.844200
152	0.000000	0.000000	190	0.000000	0.000000
153	0.000000	-34.16000	191	0.000000	-57.99140
154	0.000000	-49.65760	192	0.000000	0.000000
155	0.000000	-11.63580	193	0.000000	-68.99020
156	0.000000	-38.10470	194	0.000000	0.000000
157	0.000000	-25.63590	195	1.000000	0.000000
158	0.000000	-31.56470	196	1.000000	0.000000

197	0.000000	0.000000	235	0.000000	0.000000
198	1.000000	0.000000	236	0.000000	0.000000
199	0.000000	0.000000	237	0.000000	0.000000
200	0.000000	0.000000	238	1.000000	0.000000
201	0.000000	0.000000	239	0.000000	0.000000
202	0.000000	-28.44670	240	1.000000	0.000000
203	1.000000	0.000000	241	1.000000	0.000000
204	1.000000	0.000000	242	1.000000	0.000000
205	1.000000	0.000000	243	1.000000	0.000000
206	0.000000	0.000000	244	0.000000	0.000000
207	2.000000	0.000000	245	0.000000	0.000000
208	1.000000	0.000000	246	0.000000	0.000000
209	0.000000	0.000000	247	0.000000	0.000000
210	1.000000	0.000000	248	0.000000	-7.264500
211	0.000000	-19.73320	249	1.000000	0.000000
212	0.000000	0.000000	250	0.000000	-35.18941
213	1.000000	0.000000	251	1.000000	0.000000
214	0.000000	0.000000	252	1.000000	0.000000
215	1.000000	0.000000	253	1.000000	0.000000
216	0.000000	0.000000	254	1.000000	0.000000
217	1.000000	0.000000	255	1.000000	0.000000
218	1.000000	0.000000	256	0.000000	0.000000
219	0.000000	0.000000	257	0.000000	-20.94100
220	0.000000	0.000000	258	0.000000	0.000000
221	0.000000	0.000000	259	0.000000	0.000000
222	1.000000	0.000000	260	0.000000	-5.640400
223	0.000000	0.000000	261	1.000000	0.000000
224	0.000000	0.000000	262	0.000000	0.000000
225	1.000000	0.000000	263	0.000000	0.000000
226	0.000000	0.000000	264	1.000000	0.000000
227	0.000000	0.000000	265	0.500000	0.000000
228	1.000000	0.000000	266	1.000000	0.000000
229	0.000000	-46.34330	267	1.000000	0.000000
230	0.000000	0.000000	268	1.000000	0.000000
231	1.000000	0.000000	269	0.000000	0.000000
232	1.000000	0.000000	270	1.000000	0.000000
233	1.000000	0.000000	271	0.000000	0.000000
234	1.000000	0.000000	272	2.000000	0.000000

273	1.000000	0.000000	311	2.000000	0.000000
274	0.000000	-108.5356	312	0.000000	-8.007500
275	1.000000	0.000000	313	0.000000	0.000000
276	1.000000	0.000000	314	0.000000	0.000000
277	1.000000	0.000000	315	1.000000	0.000000
278	0.000000	0.000000	316	0.000000	0.000000
279	0.000000	0.000000	317	0.000000	-31.52140
280	0.000000	0.000000	318	0.000000	0.000000
281	1.000000	0.000000	319	0.000000	-2.091400
282	1.000000	0.000000	320	0.000000	-24.81920
283	1.000000	0.000000	321	0.000000	-73.93970
284	1.000000	0.000000	322	0.000000	-45.21720
285	0.000000	0.000000	323	1.000000	0.000000
286	0.000000	0.000000	324	1.000000	0.000000
287	1.000000	0.000000	325	0.500000	0.000000
288	0.000000	0.000000	326	0.500000	0.000000
289	0.000000	0.000000	327	0.000000	0.000000
290	0.000000	-35.62980	328	0.000000	0.000000
291	0.000000	0.000000	329	0.000000	-47.02570
292	0.000000	0.000000	330	0.000000	-70.60550
293	1.000000	0.000000	331	1.000000	0.000000
294	1.000000	0.000000	332	1.000000	0.000000
295	1.000000	0.000000	333	0.000000	0.000000
296	1.000000	0.000000	334	0.000000	-33.06815
297	1.000000	0.000000	335	0.500000	0.000000
298	0.000000	0.000000	336	0.500000	0.000000
299	0.000000	0.000000	337	0.000000	-44.41885
300	1.000000	0.000000	338	0.000000	0.000000
301	0.000000	0.000000	339	0.000000	0.000000
302	0.000000	0.000000	340	1.000000	0.000000
303	0.000000	0.000000	341	1.000000	0.000000
304	1.000000	0.000000	342	0.000000	-29.52140
305	1.000000	0.000000	343	0.000000	0.000000
306	0.000000	-55.18270	344	1.000000	0.000000
307	1.000000	0.000000	345	0.000000	-27.76275
308	0.000000	0.000000	346	0.000000	0.000000
309	0.000000	0.000000	347	1.000000	0.000000
310	0.000000	0.000000	348	1.000000	0.000000

349	0.000000	-105.2004	387	0.000000	0.000000
350	1.000000	0.000000	388	0.000000	0.000000
351	0.000000	0.000000	389	0.000000	0.000000
352	0.000000	0.000000	390	0.000000	0.000000
353	0.5000000	0.000000	391	1.000000	0.000000
354	0.000000	0.000000	392	0.000000	-32.77800
355	1.000000	0.000000	393	1.000000	0.000000
356	0.000000	0.000000	394	1.000000	0.000000
357	0.000000	0.000000	395	0.000000	0.000000
358	0.000000	-9.856700	396	0.000000	0.000000
359	0.000000	-4.609200	397	0.000000	0.000000
360	0.000000	0.000000	398	1.000000	0.000000
361	0.000000	-50.81440	399	1.000000	0.000000
362	0.000000	0.000000	400	1.000000	0.000000
363	0.000000	-34.15330	401	0.000000	-1.696500
364	1.000000	0.000000	402	0.000000	0.000000
365	0.000000	-41.41380	403	0.000000	0.000000
366	0.000000	0.000000	404	0.000000	-59.57930
367	1.000000	0.000000	405	1.000000	0.000000
368	0.000000	0.000000	406	1.000000	0.000000
369	0.000000	0.000000	407	0.000000	0.000000
370	0.000000	0.000000	408	0.000000	0.000000
371	0.000000	0.000000	409	0.000000	0.000000
372	1.000000	0.000000	410	1.000000	0.000000
373	0.000000	-98.16190	411	0.000000	-23.37190
374	0.000000	0.000000	412	0.000000	0.000000
375	0.000000	0.000000	413	1.000000	0.000000
376	0.000000	0.000000	414	0.000000	0.000000
377	0.000000	-41.53480	415	1.000000	0.000000
378	0.000000	0.000000	416	0.000000	0.000000
379	0.000000	-10.52920	417	0.000000	0.000000
380	0.000000	-16.12260	418	0.000000	-49.13200
381	0.000000	-137.6701	419	1.000000	0.000000
382	0.000000	0.000000	420	0.000000	-79.13710
383	0.000000	-208.9910	421	0.000000	0.000000
384	0.000000	0.000000	422	0.000000	0.000000
385	0.000000	0.000000	423	0.000000	0.000000
386	2.000000	0.000000	424	1.000000	0.000000

425	1.000000	0.000000	463	0.5000000	0.000000
426	1.000000	0.000000	464	1.000000	0.000000
427	1.000000	0.000000	465	0.000000	0.000000
428	0.000000	-40.95410	466	0.000000	0.000000
429	1.000000	0.000000	467	0.000000	0.000000
430	0.000000	-1.831400	468	1.000000	0.000000
431	1.000000	0.000000	469	0.000000	0.000000
432	0.000000	-0.6502000	470	1.000000	0.000000
433	0.000000	0.000000	471	1.000000	0.000000
434	1.000000	0.000000	472	0.000000	0.000000
435	1.000000	0.000000	473	0.000000	-47.58510
436	1.000000	0.000000	474	0.000000	-2.563250
437	0.000000	0.000000	475	0.000000	0.000000
438	0.000000	-47.48810	476	1.000000	0.000000
439	0.000000	0.000000	477	1.000000	0.000000
440	0.000000	0.000000	478	1.000000	0.000000
441	0.000000	0.000000	479	1.000000	0.000000
442	0.000000	0.000000	480	0.000000	0.000000
443	0.000000	0.000000	481	0.000000	0.000000
444	1.000000	0.000000	482	0.000000	0.000000
445	1.000000	0.000000	483	0.000000	0.000000
446	1.000000	0.000000	484	1.000000	0.000000
447	0.000000	0.000000	485	0.000000	-0.6480000
448	0.000000	0.000000	486	0.000000	0.000000
449	0.5000000	0.000000	487	0.000000	-47.85123
450	0.000000	0.000000	488	1.000000	0.000000
451	0.000000	0.000000	489	0.000000	-10.19080
452	0.000000	0.000000	490	1.000000	0.000000
453	0.000000	0.000000	491	0.000000	0.000000
454	0.000000	0.000000	492	0.000000	0.000000
455	1.000000	0.000000	493	0.000000	0.000000
456	0.000000	0.000000	494	0.000000	0.000000
457	1.000000	0.000000	495	0.000000	0.000000
458	0.000000	0.000000	496	0.000000	-20.44370
459	1.000000	0.000000	497	1.000000	0.000000
460	0.000000	0.000000	498	1.000000	0.000000
461	0.000000	0.000000	499	0.000000	-100.3047
462	1.000000	0.000000	500	1.000000	0.000000

501	1.000000	0.000000	539	0.000000	0.000000
502	1.000000	0.000000	540	1.000000	0.000000
503	0.000000	0.000000	541	1.000000	0.000000
504	1.000000	0.000000	542	0.000000	0.000000
505	1.000000	0.000000	543	0.000000	-3.012400
506	0.000000	0.000000	544	0.000000	0.000000
507	1.000000	0.000000	545	1.000000	0.000000
508	1.000000	0.000000	546	0.000000	-46.85820
509	1.000000	0.000000	547	0.000000	0.000000
510	1.000000	0.000000	548	1.000000	0.000000
511	1.000000	0.000000	549	0.000000	0.000000
512	1.000000	0.000000	550	1.000000	0.000000
513	1.000000	0.000000	551	1.000000	0.000000
514	0.000000	0.000000	552	0.000000	-12.42120
515	1.000000	0.000000	553	1.000000	0.000000
516	1.000000	0.000000	554	0.000000	0.000000
517	1.000000	0.000000	555	0.000000	0.000000
518	0.000000	-104.1969	556	1.000000	0.000000
519	0.000000	0.000000	557	0.000000	0.000000
520	0.000000	-202.1540	558	1.000000	0.000000
521	0.000000	-70.13260	559	1.000000	0.000000
522	0.000000	0.000000	560	1.000000	0.000000
523	0.000000	0.000000	561	1.000000	0.000000
524	0.000000	-47.64020	562	0.5000000	0.000000
525	0.5000000	0.000000	563	0.000000	0.000000
526	0.000000	-10.96120	564	1.000000	0.000000
527	1.000000	0.000000	565	0.000000	-36.85090
528	0.000000	-44.62410	566	0.000000	-1.375000
529	0.000000	0.000000	567	0.000000	0.000000
530	0.000000	-0.2364000	568	1.000000	0.000000
531	0.000000	0.000000	569	1.000000	0.000000
532	1.000000	0.000000	570	1.000000	0.000000
533	0.5000000	0.000000	571	1.000000	0.000000
534	0.000000	0.000000	572	0.000000	-34.73260
535	1.000000	0.000000	573	0.000000	0.000000
536	0.5000000	0.000000	574	0.000000	0.000000
537	0.000000	0.000000	575	0.000000	0.000000
538	0.000000	0.000000	576	0.000000	0.000000

577	1.000000	0.000000	615	0.000000	0.000000
578	1.000000	0.000000	616	0.000000	0.000000
579	0.000000	0.000000	617	0.000000	-18.72390
580	0.000000	0.000000	618	1.000000	0.000000
581	1.000000	0.000000	619	0.000000	-25.79800
582	1.000000	0.000000	620	0.000000	0.000000
583	0.000000	0.000000	621	2.000000	0.000000
584	1.000000	0.000000	622	0.000000	0.000000
585	1.000000	0.000000	623	0.000000	0.000000
586	0.000000	0.000000	624	0.000000	-25.77900
587	0.000000	-32.40400	625	0.000000	0.000000
588	1.000000	0.000000	626	0.000000	0.000000
589	0.000000	0.000000	627	1.000000	0.000000
590	1.000000	0.000000	628	1.000000	0.000000
591	0.000000	-65.52270	629	1.000000	0.000000
592	0.000000	-30.68540	630	0.000000	-11.22100
593	0.000000	0.000000	631	0.000000	0.000000
594	0.000000	0.000000	632	0.000000	0.000000
595	0.000000	0.000000	633	1.000000	0.000000
596	0.000000	0.000000	634	0.000000	0.000000
597	0.000000	0.000000	635	0.000000	0.000000
598	0.000000	-47.09930	636	0.000000	0.000000
599	1.000000	0.000000	637	1.000000	0.000000
600	0.000000	-29.99950	638	0.000000	0.000000
601	1.000000	0.000000	639	0.500000	0.000000
602	0.000000	0.000000	640	0.000000	0.000000
603	0.000000	0.000000	641	0.000000	-35.13680
604	1.000000	0.000000	642	0.000000	0.000000
605	0.000000	0.000000	643	0.000000	0.000000
606	0.000000	-25.32830	644	0.000000	0.000000
607	0.000000	-0.7840000E-01	645	1.000000	0.000000
608	0.000000	0.000000	646	1.000000	0.000000
609	0.000000	0.000000	647	1.000000	0.000000
610	1.000000	0.000000	648	1.000000	0.000000
611	0.000000	-44.33710	649	1.000000	0.000000
612	0.000000	0.000000	650	0.000000	0.000000
613	1.000000	0.000000	651	1.000000	0.000000
614	1.000000	0.000000	652	0.500000	0.000000

653	0.5000000	0.000000	691	0.000000	0.000000
654	0.000000	-1.880450	692	0.000000	-49.35700
655	0.000000	0.000000	693	0.000000	0.000000
656	1.000000	0.000000	694	0.000000	0.000000
657	1.000000	0.000000	695	0.000000	-40.58080
658	0.000000	-19.78160	696	0.000000	0.000000
659	1.000000	0.000000	697	0.000000	0.000000
660	0.000000	-11.73880	698	0.000000	0.000000
661	1.000000	0.000000	699	1.000000	0.000000
662	0.000000	-26.64400	700	0.000000	0.000000
663	0.000000	0.000000	701	0.000000	0.000000
664	0.000000	0.000000	702	0.000000	0.000000
665	0.000000	-0.4875000	703	0.000000	0.000000
666	0.000000	0.000000	704	0.000000	0.000000
667	0.000000	0.000000	705	0.000000	0.000000
668	0.000000	0.000000	706	0.000000	0.000000
669	0.000000	0.000000	707	0.000000	0.000000
670	0.000000	0.000000	708	0.000000	0.000000
671	0.000000	0.000000	709	0.5000000	0.000000
672	0.000000	-9.420700	710	0.000000	0.000000
673	0.000000	0.000000	711	1.000000	0.000000
674	1.000000	0.000000	712	0.000000	0.000000
675	0.000000	0.000000	713	0.000000	0.000000
676	1.000000	0.000000	714	0.000000	-32.17210
677	1.000000	0.000000	715	0.000000	0.000000
678	1.000000	0.000000	716	0.5000000	0.000000
679	1.000000	0.000000	717	0.5000000	0.000000
680	1.000000	0.000000	718	0.000000	0.000000
681	0.000000	0.000000	719	0.5000000	0.000000
682	0.000000	0.000000	720	1.000000	0.000000
683	0.000000	0.000000	721	1.000000	0.000000
684	1.000000	0.000000	722	0.000000	0.000000
685	1.000000	0.000000	723	0.000000	0.000000
686	0.000000	0.000000	724	0.000000	0.000000
687	0.000000	0.000000	725	1.000000	0.000000
688	0.000000	0.000000	726	1.000000	0.000000
689	0.000000	0.000000	727	1.000000	0.000000
690	0.000000	0.000000	728	0.000000	0.000000

729	0.000000	-23.48020	767	0.000000	0.000000
730	0.000000	0.000000	768	1.000000	0.000000
731	0.000000	0.000000	769	1.000000	0.000000
732	1.000000	0.000000	770	1.000000	0.000000
733	0.000000	-10.96860	771	0.000000	0.000000
734	0.5000000	0.000000	772	0.000000	0.000000
735	1.000000	0.000000	773	0.000000	0.000000
736	0.000000	0.000000	774	0.5000000	0.000000
737	1.000000	0.000000	775	0.000000	0.000000
738	1.000000	0.000000	776	0.5000000	0.000000
739	0.000000	-81.36770	777	1.000000	0.000000
740	0.000000	0.000000	778	0.000000	0.000000
741	0.000000	-66.47560	779	0.000000	0.000000
742	0.000000	0.000000	780	0.000000	0.000000
743	0.000000	0.000000	781	1.000000	0.000000
744	0.5000000	0.000000	782	0.000000	0.000000
745	0.000000	0.000000	783	1.000000	0.000000
746	0.000000	0.000000	784	0.000000	0.000000
747	0.000000	0.000000	785	1.000000	0.000000
748	1.000000	0.000000	786	0.000000	0.000000
749	0.000000	0.000000	787	1.000000	0.000000
750	0.000000	0.000000	788	1.000000	0.000000
751	0.000000	-6.694500	789	0.000000	0.000000
752	1.000000	0.000000	790	0.000000	-1.651900
753	1.000000	0.000000	791	0.000000	0.000000
754	1.000000	0.000000	792	1.000000	0.000000
755	1.000000	0.000000	793	1.000000	0.000000
756	1.000000	0.000000	794	0.5000000	0.000000
757	0.000000	0.000000	795	0.000000	0.000000
758	0.000000	0.000000	796	0.000000	0.000000
759	1.000000	0.000000	797	1.000000	0.000000
760	1.000000	0.000000	798	0.000000	0.000000
761	0.000000	-8.838500	799	0.5000000	0.000000
762	1.000000	0.000000	800	0.5000000	0.000000
763	1.000000	0.000000	801	1.000000	0.000000
764	0.000000	0.000000	802	0.000000	-33.56420
765	1.000000	0.000000	803	1.000000	0.000000
766	0.000000	-24.62310	804	0.000000	0.000000

805 1.000000 0.000000

Mapa 18

Global optimal solution found.

Objective value: 5759.050

Infeasibilities: 0.000000

Total solver iterations: 76

Model Class: LP

Total variables: 111

Nonlinear variables: 0

Integer variables: 0

Total constraints: 295

Nonlinear constraints: 0

Total nonzeros: 816

Nonlinear nonzeros: 0

Variable	Value	Reduced Cost			
X001002	1.000000	0.000000	X009010	1.000000	0.000000
X001059	1.000000	0.000000	X009022	1.000000	0.000000
X002003	0.000000	0.000000	X010011	0.000000	20.77000
X002055	1.000000	0.000000	X010023	1.000000	0.000000
X003004	1.000000	0.000000	X011012	1.000000	0.000000
X003052	1.000000	0.000000	X011023	1.000000	0.000000
X004005	0.000000	55.07000	X012013	1.000000	0.000000
X004051	1.000000	0.000000	X012021	0.000000	109.3700
X005006	1.000000	0.000000	X012015	1.000000	0.000000
X005042	1.000000	0.000000	X013021	0.000000	0.000000
X006007	1.000000	0.000000	X013019	0.000000	0.4300000
X006041	0.000000	85.95000	X013014	1.000000	0.000000
X007008	1.000000	0.000000	X014018	0.000000	0.000000
X007038	1.000000	0.000000	X014017	0.000000	77.90000
X008009	0.000000	49.93000	X014015	1.000000	0.000000
X008035	1.000000	0.000000	X015016	0.000000	29.34000
			X016017	1.000000	0.000000

X016074	1.000000	0.000000	X043048	0.000000	31.68000
X017027	1.000000	0.000000	X044051	1.000000	0.000000
X018019	1.000000	0.000000	X044049	0.000000	111.4900
X018026	1.000000	0.000000	X045046	1.000000	0.000000
X019025	0.000000	149.4300	X046048	1.000000	0.000000
X019020	1.000000	0.000000	X046047	1.000000	0.000000
X020021	1.000000	0.000000	X047071	1.000000	0.000000
X020024	0.000000	94.59000	X047069	0.000000	92.62000
X021022	1.000000	0.000000	X048049	1.000000	0.000000
X022023	0.000000	0.000000	X049050	1.000000	0.000000
X024033	1.000000	0.000000	X050051	0.000000	3.040000
X024025	1.000000	0.000000	X050069	1.000000	0.000000
X025026	1.000000	0.000000	X052053	1.000000	0.000000
X026027	0.000000	0.000000	X052055	0.000000	96.25000
X027028	1.000000	0.000000	X053056	1.000000	0.000000
X028029	1.000000	0.000000	X053054	0.000000	0.000000
X028033	0.000000	124.4000	X054057	1.000000	0.000000
X029074	1.000000	0.000000	X054070	1.000000	0.000000
X029072	0.000000	18.87000	X055056	1.000000	0.000000
X029030	1.000000	0.000000	X056057	0.000000	46.14000
X030071	0.000000	0.000000	X057060	1.000000	0.000000
X030031	1.000000	0.000000	X058059	1.000000	0.000000
X031046	0.000000	166.9000	X059060	0.000000	0.000000
X031032	1.000000	0.000000	X059061	1.000000	0.000000
X032033	1.000000	0.000000	X060070	1.000000	0.000000
X032040	0.000000	14.00000	X061062	1.000000	0.000000
X034035	1.000000	0.000000	X061068	0.000000	139.2900
X034037	1.000000	0.000000	X062063	1.000000	0.000000
X035036	1.000000	0.000000	X062067	0.000000	99.02000
X036037	1.000000	0.000000	X063064	1.000000	0.000000
X037039	0.000000	10.75000	X063066	0.000000	141.5600
X038039	1.000000	0.000000	X064065	1.000000	0.000000
X039040	1.000000	0.000000	X065066	1.000000	0.000000
X040041	1.000000	0.000000	X065073	1.000000	0.000000
X041045	1.000000	0.000000	X066067	1.000000	0.000000
X042043	1.000000	0.000000	X067068	1.000000	0.000000
X042045	0.000000	29.48000	X068069	1.000000	0.000000
X043044	1.000000	0.000000	X069070	0.000000	0.000000

X071072 1.000000 0.000000
X072073 1.000000 0.000000

Row	Slack or Surplus	Dual Price
1	5759.050	-1.000000
2	0.000000	-49.98000
3	0.000000	-53.94000
4	0.000000	-7.920000
5	0.000000	-48.98000
6	0.000000	0.000000
7	1.000000	0.000000
8	0.000000	-54.36000
9	0.000000	0.000000
10	0.000000	-53.20000
11	0.000000	-53.97000
12	1.000000	0.000000
13	0.000000	-89.13000
14	0.000000	0.000000
15	0.000000	-54.74000
16	0.000000	0.000000
17	0.000000	-56.37000
18	0.000000	-27.06000
19	0.000000	-25.77000
20	0.000000	-25.53000
21	0.000000	-24.21000
22	0.000000	-26.12000
23	0.000000	-25.26000
24	0.000000	-52.54000
25	0.000000	0.000000
26	0.000000	-51.22000
27	0.000000	-3.900000
28	0.000000	-48.20000
29	1.000000	0.000000
30	0.000000	-56.59000
31	0.000000	0.000000
32	0.000000	-49.19000
33	0.000000	-0.1800000
34	1.000000	0.000000

35	0.000000	0.000000
36	0.000000	0.000000
37	0.000000	0.000000
38	0.000000	-46.96000
39	0.000000	0.000000
40	0.000000	-50.42000
41	0.000000	-4.120000
42	0.000000	-5.090000
43	1.000000	0.000000
44	0.000000	-54.85000
45	0.000000	-34.96000
46	0.000000	-16.64000
47	0.000000	-39.73000
48	0.000000	-53.79000
49	0.000000	0.000000
50	0.000000	-53.03000
51	0.000000	-2.810000
52	0.000000	0.000000
53	0.000000	-50.57000
54	0.000000	0.000000
55	0.000000	-54.85000
56	1.000000	0.000000
57	0.000000	-50.80000
58	0.000000	-5.760000
59	0.000000	-52.78000
60	0.000000	0.000000
61	1.000000	0.000000
62	0.000000	0.000000
63	0.000000	-49.65000
64	0.000000	0.000000
65	0.000000	-14.05000
66	0.000000	-50.80000
67	0.000000	-2.570000
68	0.000000	0.000000
69	0.000000	-15.13000
70	0.000000	0.000000
71	0.000000	0.000000
72	0.000000	0.000000

73	0.000000	0.000000	111	1.000000	0.000000
74	1.000000	0.000000	112	1.000000	0.000000
75	1.000000	0.000000	113	0.000000	0.000000
76	0.000000	-61.55000	114	2.000000	0.000000
77	0.000000	0.000000	115	1.000000	0.000000
78	0.000000	0.000000	116	0.000000	-16.61000
79	0.000000	-0.4800000	117	0.000000	0.000000
80	1.000000	0.000000	118	0.000000	0.000000
81	0.000000	0.000000	119	1.000000	0.000000
82	0.000000	0.000000	120	1.000000	0.000000
83	1.000000	0.000000	121	1.000000	0.000000
84	0.000000	0.000000	122	0.000000	-74.01000
85	0.000000	0.000000	123	0.000000	-9.000000
86	0.000000	0.000000	124	1.000000	0.000000
87	1.000000	0.000000	125	0.000000	-30.34000
88	1.000000	0.000000	126	1.000000	0.000000
89	1.000000	0.000000	127	0.000000	0.000000
90	1.000000	0.000000	128	1.000000	0.000000
91	1.000000	0.000000	129	1.000000	0.000000
92	0.000000	0.000000	130	1.000000	0.000000
93	0.000000	0.000000	131	0.000000	-84.94000
94	1.000000	0.000000	132	1.000000	0.000000
95	0.000000	0.000000	133	0.000000	-47.79000
96	1.000000	0.000000	134	0.000000	0.000000
97	1.000000	0.000000	135	0.000000	0.000000
98	0.000000	-30.55000	136	1.000000	0.000000
99	0.000000	0.000000	137	1.000000	0.000000
100	1.000000	0.000000	138	0.000000	0.000000
101	0.000000	0.000000	139	0.000000	-81.24000
102	0.000000	-74.52000	140	0.000000	-244.6600
103	1.000000	0.000000	141	0.000000	-203.2700
104	0.000000	-53.29000	142	0.000000	-234.9300
105	1.000000	0.000000	143	0.000000	0.000000
106	0.000000	-57.16000	144	1.000000	0.000000
107	0.000000	0.000000	145	0.000000	0.000000
108	0.000000	0.000000	146	1.000000	0.000000
109	0.000000	0.000000	147	0.000000	-50.23000
110	1.000000	0.000000	148	1.000000	0.000000

149	0.000000	0.000000	187	1.000000	0.000000
150	1.000000	0.000000	188	0.000000	0.000000
151	0.000000	-49.26000	189	1.000000	0.000000
152	1.000000	0.000000	190	1.000000	0.000000
153	1.000000	0.000000	191	0.000000	0.000000
154	1.000000	0.000000	192	0.000000	0.000000
155	1.000000	0.000000	193	0.000000	0.000000
156	0.000000	0.000000	194	0.000000	0.000000
157	1.000000	0.000000	195	1.000000	0.000000
158	1.000000	0.000000	196	0.000000	0.000000
159	1.000000	0.000000	197	0.000000	0.000000
160	0.000000	0.000000	198	0.000000	0.000000
161	0.000000	0.000000	199	1.000000	0.000000
162	1.000000	0.000000	200	0.000000	-5.870000
163	0.000000	0.000000	201	0.000000	0.000000
164	0.000000	0.000000	202	0.000000	0.000000
165	1.000000	0.000000	203	0.000000	0.000000
166	1.000000	0.000000	204	0.000000	-109.4100
167	0.000000	0.000000	205	1.000000	0.000000
168	0.000000	0.000000	206	1.000000	0.000000
169	0.000000	-6.110000	207	1.000000	0.000000
170	1.000000	0.000000	208	1.000000	0.000000
171	0.000000	0.000000	209	0.000000	0.000000
172	0.000000	0.000000	210	0.000000	0.000000
173	0.000000	0.000000	211	1.000000	0.000000
174	0.000000	-3.350000	212	1.000000	0.000000
175	0.000000	-54.36000	213	0.000000	-56.71000
176	1.000000	0.000000	214	0.000000	-58.81000
177	0.000000	-75.19000	215	1.000000	0.000000
178	0.000000	0.000000	216	0.000000	0.000000
179	0.000000	-73.94000	217	1.000000	0.000000
180	1.000000	0.000000	218	0.000000	-49.77000
181	1.000000	0.000000	219	0.000000	0.000000
182	1.000000	0.000000	220	1.000000	0.000000
183	0.000000	0.000000	221	1.000000	0.000000
184	0.000000	0.000000	222	0.000000	-109.6700
185	0.000000	0.000000	223	1.000000	0.000000
186	0.000000	-47.63000	224	0.000000	0.000000

225	2.000000	0.000000	261	0.000000	-38.93000
226	1.000000	0.000000	262	0.000000	0.000000
227	1.000000	0.000000	263	0.000000	0.000000
228	0.000000	-131.8200	264	0.000000	0.000000
229	0.000000	0.000000	265	1.000000	0.000000
230	0.000000	-42.58000	266	0.000000	-1.070000
231	0.000000	-77.46000	267	1.000000	0.000000
232	1.000000	0.000000	268	2.000000	0.000000
233	0.000000	0.000000	269	1.000000	0.000000
234	0.000000	0.000000	270	0.000000	-45.12000
235	0.000000	0.000000	271	0.000000	0.000000
236	0.000000	0.000000	272	0.000000	0.000000
237	0.000000	0.000000	273	1.000000	0.000000
238	0.000000	0.000000	274	0.000000	0.000000
239	0.000000	-13.60000	275	0.000000	-4.040000
240	1.000000	0.000000	276	0.000000	-33.78000
241	0.000000	0.000000	277	0.000000	0.000000
242	2.000000	0.000000	278	0.000000	0.000000
243	1.000000	0.000000	279	0.000000	-21.49000
244	1.000000	0.000000	280	0.000000	0.000000
245	0.000000	0.000000	281	1.000000	0.000000
246	1.000000	0.000000	282	0.000000	-15.94000
247	1.000000	0.000000	283	0.000000	0.000000
248	0.000000	0.000000	284	0.000000	0.000000
249	0.000000	-53.11000	285	0.000000	0.000000
250	0.000000	0.000000	286	1.000000	0.000000
251	0.000000	0.000000	287	1.000000	0.000000
252	0.000000	0.000000	288	1.000000	0.000000
253	0.000000	0.000000	289	1.000000	0.000000
254	0.000000	0.000000	290	0.000000	0.000000
255	1.000000	0.000000	291	0.000000	0.000000
256	1.000000	0.000000	292	1.000000	0.000000
257	0.000000	0.000000	293	1.000000	0.000000
258	0.000000	0.000000	294	0.000000	0.000000
259	0.000000	0.000000	295	1.000000	0.000000
260	1.000000	0.000000			